

BRIGHAM YOUNG UNIVERSITY



Annual Catalog Issue

1961-62

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Brigham Young University Bulletin



CATALOG OF COURSES

1961-62

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University Calendar

1961-62

Although as accurate as possible at the time of the printing of this catalog, the calendar is subject to change at the discretion of the University administration.

First Semester

September 9, 10, 11 (Saturday, Sunday, Monday): Student Leadership Conference.

September 11, 12 (Monday, Tuesday): Faculty Workshop.

September 13, 14, 15, 16 (Wednesday, Thursday, Friday, Saturday): New-Student Orientation and Placement Tests.

September 14, 15 (Thursday, Friday): Utah Conference on Higher Education at University of Utah.

September 18, 19 (Monday, Tuesday): Registration for all regular and special students.

September 20 (Wednesday): Class instruction begins.

September 23 (Saturday): Junior English Proficiency Examination.

October 13 (Friday): Last day on which late registration may occur for First Semester and for dropping and adding classes. (Classes may be dropped until the 12th week under carefully prescribed conditions.)

October 28 (Saturday): Homecoming.

November 10 (Friday): Mid-semester registration for courses available to students on special authorization.

November 23, 24, 25 (Thursday, Friday, Saturday): Thanksgiving recess.

December 18 (Monday) through January 2 (Tuesday): Christmas vacation period.

January 29, 30, 31, February 1, 2 (Monday, Tuesday, Wednesday, Thursday, Friday): Final examination period.

Second Semester

February 5, 6 (Monday, Tuesday): Registration for Second Semester.

February 7 (Wednesday): Class instruction begins.

February 10 (Saturday): Junior English Proficiency Examination.

February 23 (Friday): Last day on which late registration may occur and for dropping and adding classes. (Classes may be dropped until 12th week under carefully prescribed conditions.)

March 30 (Friday): Mid-semester registration for courses available to students on special authorization.

May 2 (Wednesday): Y Day.

May 26 (Saturday): Senior Day.

May 28, 29, 30, 31, June 1 (Monday, Tuesday, Wednesday, Thursday, Friday):
Final examination period.

May 31 (Thursday): Baccalaureate services.

June 1 (Friday): Commencement.

Summer Session

June 4, 5, 6, 7, 8 (Monday, Tuesday, Wednesday, Thursday, Friday): Workshop Week.

June 18 (Monday): Registration for First Term of Summer School.

June 19 (Tuesday): Class instruction begins.

July 4 (Wednesday): National Holiday observed.

July 20 (Friday): End of First Term.

July 23 (Monday): Class instruction begins Second Term.

July 24 (Tuesday): State Holiday observed.

August 24 (Friday): Last day of summer session. Summer Convocation held.

Administration and Faculty

Board of Trustees of Brigham Young University

DAVID O. McKAY	President
J. REUBEN CLARK, JR.	First Vice-President
HENRY D. MOYLE	Second Vice-President

JOSEPH FIELDING SMITH
 HAROLD B. LEE
 SPENCER W. KIMBALL
 EZRA TAFT BENSON
 MARK E. PETERSEN
 DELBERT L. STAPLEY
 MARION G. ROMNEY
 LeGRAND RICHARDS
 RICHARD L. EVANS
 GEORGE Q. MORRIS
 HUGH B. BROWN
 HOWARD W. HUNTER
 CLYDE D. SANDGREN, Secretary

Executive Committee of Brigham Young University Board of Trustees

JOSEPH FIELDING SMITH
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 MARION G. ROMNEY
 GEORGE Q. MORRIS
 HUGH B. BROWN
 ERNEST L. WILKINSON
 CLYDE D. SANDGREN, Secretary

University Administrative Officers

MEMBERS OF THE ADMINISTRATIVE COUNCIL

President	Ernest L. Wilkinson
Administrative Assistant	John T. Bernhard
Assistant to the President in Charge of University Development	William Noble Waite*
Vice-President	William E. Berrett
Vice-President	Earl C. Crockett
Vice-President in Charge of Auxiliary Services	Ben E. Lewis
Vice-President and General Counsel	Clyde D. Sandgren
Vice-President	Harvey L. Taylor
Comptroller	Joseph T. Bentley

*Not on Administrative Council.

DEANS OF COLLEGES

Biological and Agricultural Sciences	Rudger H. Walker
Business	Weldon J. Taylor
Education, Acting Dean	A. John Clarke
Family Living	Jack B. Trunnell
Fine Arts	Conan E. Mathews
General College	Wayne B. Hales
Humanities and Social Sciences, Acting Dean	Reed H. Bradford
Nursing	Beulah Ream Allen
Physical and Engineering Sciences	Armin J. Hill
Physical Education	Milton F. Hartvigsen
Religious Instruction	David H. Yarn, Jr.

DEAN OF STUDENTS

Dean	Antone K. Romney
------------	------------------

DEANS AND DIRECTORS OF SCHOOLS AND OTHER PROGRAMS

Adult Education and Extension Services, Dean	Harold Glen Clark
Assistant to Dean	Phileon B. Robinson, Jr.
Academic and Center Coordinator	Richard H. Henstrom
Department of Community Education, Chairman	D. Chris Poulos
Department of Home Study, Chairman	Lula Clegg
Department of Travel Study, Chairman	Robert C. Taylor
Department of Audio-Visual Communication, Chairman ..	LeRoy R. Lindeman
Department of Extension Publications, Chairman	William G. Leach
B.Y.U.-Ricks Adult Education Center, Chairman	J. Kenneth Thatcher
B.Y.U.-Ogden Adult Education Center, Chairman	George S. Haslam
B.Y.U.-Salt Lake Adult Education Center, Chairman	Lynn M. Hilton
B.Y.U.-Los Angeles Adult Education Center, Chairman	David N. Chalk
B.Y.U.-Provo Campus Adult Education Center, Acting Chairman	Robert H. Teichert
Graduate School, Dean	Wesley P. Lloyd
Honors Program, Director	Robert Thomas
Laboratory Schools, Director	Edwin C. Read
Libraries, Director	S. Lyman Tyler
Assistant Director	Donald K. Nelson
Librarian, High School Library	June Berry
Librarian, Elementary School Library	Carma Sandberg
University Archivist	Ralph Hansen
Research Division, Director	H. Tracy Hall
Summer School, Director	Dean A. Peterson

CHAIRMEN OF DEPARTMENTS OF INSTRUCTION

Accounting	Robert J. Smith
Agricultural Economics	Ivan L. Corbridge

Agronomy	Raymond Farnsworth
Air Science	Lt. Colonel William J. Gibson
Animal Husbandry	Lawrence Morris
Archaeology	Ross T. Christensen
Art	J. Roman Andrus
Bacteriology	Richard D. Sagers
Bible and Modern Scripture	Howard H. Barron
Biblical Languages	Ellis Rasmussen
Botany	Bertrand F. Harrison
Business Education and Office Management	Richard D. Bell
Business Management	Parley M. Pratt
Chemical Engineering Science	Dee H. Barker
Chemistry	Albert D. Swensen
Civil Engineering Science	Ralph L. Rollins
Clothing and Textiles	Margaret Childs
Dramatic Arts	Harold I. Hansen
Economics	Willard Doxy
Educational Administration	Keith R. Oakes
Educational Philosophy and Programs	Stephen L. Alley
Educational Research and Services	Lester N. Downing
Electrical Engineering Science	Darrel J. Monson
English	Bruce B. Clark
Food and Nutrition	Sadie O. Morris
Geography	Robert L. Layton
Geology and Geological Engineering Science	Kenneth C. Bullock
Health and Safety Education	Ray Watters
History	Eugene E. Campbell
History and Philosophy of Religion	Truman G. Madsen
Homemaking Education	Virginia Poulson
Horticulture and Horticultural Specialties	Ernest F. Reimschuessel
Housing and Home Management	Stephen Stanford
Human Development and Family Relationships	Blaine M. Porter
Industrial Education	Ross J. McArthur
Institute of Government Service	Stewart L. Grow
Instruction	Dean C. Christensen
Intercollegiate Athletics	Edwin R. Kimball
Journalism	Jean R. Paulson
Languages	Darrel Taylor
Library Science	Hattie M. Knight
Mathematics	Harvey J. Fletcher
Mechanical Engineering Science	John M. Simonsen
Music	Crawford Gates
Physical Education for Men	Charles J. Hart
Physical Education for Women	Leona Holbrook
Physics	John Hale Gardner
Political Science	Mark W. Cannon
Psychology	Robert Howell
Recreation	Israel C. Heaton
Religious Education	B. West Belnap
Sociology and Anthropology	Joseph N. Symons
Speech	Morris M. Clinger

Statistics	Howard C. Nielson
Technical and Semi-Professional Institute	Ernest C. Jeppsen
Theology and Church Administration	Rodney Turner
Youth Leadership	Thane Packer
Zoology and Entomology	C. Lynn Hayward

ADMINISTRATIVE OFFICERS, NON-INSTRUCTIONAL UNITS

Admission and Records, Dean	Alma P. Burton
Admissions Officer	Orrin H. Jackson
Admissions Counselor	Dale L. Nelson
Records Officer	Lucile Spencer
Registration Officer	Donald T. Nelson
Statistics and Veterans Officer	Donald I. Starr
Undergraduate Scholarships and Awards, Chairman	Dale L. Nelson
Alumni Relations, Director	Raymond E. Beckham
Director of Alumni Funds	Ronald G. Hyde
Auxiliary Services, Director	Ben E. Lewis
Food Services, Director	Wells Cloward
Housing, Director	Fred A. Schwendiman
Men's Housing, Supervisor	Carl D. Jones
Women's Housing, Supervisor	Jennie Jones
Photo Studio, Manager	Don Pugmire
Motion Picture Production, Director	Wetzel O. Whitaker
Purchasing Agent	C. R. Peterson
Mail Service, Post Office, Purchasing, Receiving	
University Press, Manager	Franklin R. Haymore
"Y" Student Center, Director	Lyle S. Curtis
Comptroller	Joseph T. Bentley
Accountant, University	C. Joseph Rowberry
Auditors, University	J. Alan Blodgett, Lyman J. Durfee
Data Processing Office, Director	Richard W. Dayhuff
Financial Aids and Loans—Student and Staff	O. Wendle Nielsen
Placement Bureau, Director	B. Keith Duffin
Students Supply, Manager	H. Neil McKnight
Ticket Bureau, Director	Floyd R. Taylor
Treasurer, University	Kiefer B. Sauls
Physical Plant, Director	Sam F. Brewster
Construction Division, Construction Engineer	Paul G. Rasmussen
Maintenance and Operations Division, Assistant to the Director	Harold J. Anderson
Planning Division, Chief	Ephraim Hatch
Security Officer	Leonard E. Christensen
Public Relations, Director	Lester B. Whetten
Booking University Attractions, Chairman	James H. Lawrence
Civic and Church Organization Relations, Chairman	Lester B. Whetten
Conferences and Conventions, Chairman	C. LaVar Rockwood
Devotional Assemblies, Chairman	Herald R. Clark
Press Relations, Chairman	Edwin J. Butterworth
Program Coordinator	Jane Thompson

Radio and Television Programs, Chairman	Tess M. Williams
Servicemen's Letter Committee, Chairman	T. Earl Pardoe
University and Professional Relations, Chairman	Lester B. Whetten
University Mailing Center, Chairman	Parley A. Peterson
University Program Bureau, Chairman	James H. Lawrence
University Publications, Chairman	Ernest LeRoy Olson
University Speakers Bureau, Chairman	J. Lorin Jex
Students, Dean	Antone K. Romney
Academic Standards, Chairman	Darrell L. Moses
Counseling Service, Chairman	Clyde A. Parker
Counselor for Women	Klea Worsley
Foreign Students, Adviser	Ariel S. Ballif
Indian Students, Adviser	Robert F. Gwilliam
Special Student Problems, Adviser	Alma W. King
Student Health Services, Director	Richard A. Nimer
Student Organizations, Coordinator	Paul E. Felt
University Standards, Chairman	Kenneth Lauritzen

Councils

ADMINISTRATIVE COUNCIL

On matters of over-all policy the following meet as an administrative council for the purpose of advising the President and resolving mutual problems: Ernest L. Wilkinson, President; John T. Bernhard, Administrative Assistant; William E. Berrett, Earl C. Crockett, and Harvey L. Taylor, Vice-Presidents; Clyde D. Sandgren, Vice-President and General Counsel; Joseph T. Bentley, Comptroller; and Ben E. Lewis, Vice-President in Charge of Auxiliary Services.

DEANS' COUNCIL

The Deans' Council consists of the administrative council, all deans, and the directors of schools and divisions.

GRADUATE COUNCIL

The chief administrative body of the graduate faculty is the Graduate Council, which consists of (1) the academic vice-president of the University, the dean of the Graduate School, and the director of research, ex officio; (2) four members of the graduate faculty elected at large for terms of three years; and (3) nine members of the graduate faculty, one elected from each of the nine colleges in which there are departments offering graduate work.

EXTENSION SERVICES COUNCIL

The Extension Services Council is an advisory body for the Adult Education and Extension Services.

Faculty

Emeriti

- Clarence S. Boyle** Professor Emeritus of Marketing
B.S., Brigham Young University, 1924; M.S., Ed.D., New York University, 1926, 1941.
- William H. Boyle** Professor Emeritus of Education
B.A., M.A., Brigham Young University, 1913, 1923.
- Ella Larsen Brown** Librarian Emeritus
- Gustave O. Buggert** Assistant Professor Emeritus of Music
- Clawson Y. Cannon, Sr.** Professor Emeritus of Animal Husbandry (1956)
B.S., Utah State University, 1913; M.S., Ph.D., Iowa State College, 1924, 1927.
- Elsie C. Carroll** Associate Professor Emeritus of English
B.S., M.A., Brigham Young University, 1926, 1928.
- Parley A. Christensen** Professor Emeritus of English (1927)
B.S., Utah State University, 1914; M.A., Ph.D., Stanford University, 1925, 1927.
- Benjamin F. Cummings** Professor Emeritus of Modern and
Classical Languages
B.A., University of Utah, 1913.
- J. Orval Ellsworth** Professor Emeritus of Religion
B.S., Utah State University, 1917; M.S., Ph.D., Cornell University, 1924, 1926.
- Flora D. Fisher** Assistant Professor Emeritus of Education
B.S., M.S., Brigham Young University, 1936, 1949.
- Harvey Fletcher** Professor Emeritus of Physics; Dean Emeritus of
College of Physical and Engineering Sciences (1952)
B.S., Brigham Young University, 1907; Ph.D., Chicago University, 1911; hon. Sc. D.,
Columbia University, 1935; hon. Sc. D., Kenyon College, 1942; hon. Sc. D., Stevens
Institute of Technology, 1942; hon. Sc. D., Case School of Applied Sciences, 1942;
hon. Sc. D., University of Utah, 1944; hon. Sc. D., Brigham Young University, 1954.
- May C. Hammond** Assistant Professor Emeritus of Education
B.S., M.S., Brigham Young University, 1934, 1949.
- William F. Hansen** Assistant Professor Emeritus of Music
B.S., M.S., Brigham Young University, 1936, 1937.
- John E. Hayes** Registrar Emeritus
B.S., Brigham Young University, 1924.
- Harrison Val Hoyt** Professor Emeritus of Accounting; Dean
Emeritus of the College of Commerce
B.S., Purdue University, 1913; M.B.A., Harvard University, 1917; Ph.D., Stanford
University, 1931.
- Christen Jensen** Professor Emeritus of History and Political
Science, Dean Emeritus of the Graduate School
and President Emeritus of the University
B.A., University of Utah, 1907; M.A., Harvard University, 1908; Ph.D., University of
Chicago, 1921.
- Bent F. Larsen** Professor Emeritus of Art
B.A., Brigham Young University, 1912; M.A., University of Utah, 1922.
- Florence Jepperson Madsen** Professor Emeritus of Music
B.M., M.M., Chicago Musical College, 1926, 1927; Doctor of Music Boguslawski Col-
lege of Music, 1932; B.A., Brigham Young University, 1934; M.M., hon. Doctor of
Music, Chicago College of Music, 1933.
- Franklin Madsen** Professor Emeritus of Music
B.A., M.A., Brigham Young University, 1925, 1931; B.M., 1926; M.M., 1927; B.M.E.,
1928; Mus. Doc., 1929; M.M.E., 1932; hon. Doctor of Music Education, Boguslawski
College of Music, 1933; hon. Doctor of Music Education, Chicago College of Music,
1934.

- Georgia Maeser** Assistant Professor Emeritus of Education
B.S., Brigham Young University, 1928; M.A., Columbia University, 1938.
- Joseph K. Nicholes** Professor Emeritus of Chemistry (1933)
B.A., Brigham Young University, 1916; M.A., Stanford University, 1924.
- T. Earl Pardoe** Professor Emeritus of Speech
B.A., Brigham Young University, 1925; M.A., University of Southern California, 1931; Ph.D., Louisiana State University, 1936.
- Hermese Peterson** Professor Emeritus of Education
B.S., Brigham Young University, 1928.
- M. Wilford Poulson** Professor Emeritus of Psychology
B.A., Brigham Young University, 1914; M.A., University of Utah, 1919.
- J. Wyley Sessions** Professor Emeritus of Religious Philosophy
B.S., Utah State University, 1911; M.A., University of Idaho, 1928.
- William H. Snell** Professor Emeritus of Industrial Arts
B.A., M.S., Brigham Young University, 1918, 1939.
- Margaret Summerhays** Assistant Professor Emeritus of Music
Graduate, New England Conservatory of Music, 1916; B.A., Brigham Young University, 1936.
- Effie Warnick** Professor Emeritus of Home Economics
B.S., Utah State University, 1914; M.S., Iowa State College, 1937.

Members of the Instructional and Administrative Staff

- Melvin H. Aamodt** Instructor in Geography (1960)
B.A., Brigham Young University, 1958; M.A., University of Wisconsin, 1960.
- George M. Addy** Assistant Professor of History (1957)
B.A., M.A., Brigham Young University, 1948, 1950; Ph.D., Duke University, 1957.
- Lorna Call Alder** Assistant Professor of Education (1949)
B.S., Brigham Young University, 1935; M.A., Columbia University, 1940.
- Zane G. Alder** Instructor in English (1955)
B.S. M.S., Utah State University, 1948, 1956.
- A. Lester Allen** Associate Professor of Zoology (1954)
B.A., Ph.D., University of California at Los Angeles, 1946, 1951.
- Beulah Ream Allen** Professor of Nursing and Dean of the
College of Nursing (1961)
B.A., University of Utah, 1928; M.D., University of California, 1932.
- Dell K. Allen** Special Instructor in Industrial Education (1960)
B.S., Utah State University, 1954.
- Mark K. Allen** Professor of Psychology (1946)
B.A., Brigham Young University, 1926; M.A., Stanford University, 1935; Ph.D., Stanford University, 1955.
- Stephen L. Alley** Associate Professor of Educational Philosophy (1956)
B.S., M.S., University of Utah, 1947, 1951; Ed.D., Harvard University, 1958.
- Dorald M. Allred** Assistant Professor of Zoology and Entomology (1956)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Utah, 1954.
- Mildred E. Allred** Assistant Professor of Nursing (1954)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1925; B.S., Brigham Young University, 1943; M.N., University of Washington, 1960.
- R. Chase Allred** Associate Professor of Agronomy (1955)
B.S., Brigham Young University, 1948; M.S., Kansas State College, 1949; Ph.D., University of Nebraska, 1952.
- Captain Ray W. Alvord** Assistant Professor of Air Science (1958)
B.S., Utah State University, 1950; M.Ed., Stanford University, 1955.

- Mignon H. Alward** Instructor in Nursing (1953)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1945; B.S., University of Utah, 1946.
- H. Verlan Andersen** Professor of Accounting (1953)
B.S., Brigham Young University, 1940; LL.B., Stanford University, 1946; LL.M., Harvard University, 1948; C.F.A., State of Arizona, 1943.
- C. Dixon Anderson** Assistant Professor of Modern Languages (1956)
B.A., Brigham Young University, 1953; M.A., University of Texas, 1956.
- Floyd M. Anderson** Associate Professor of Human Development and Family Relationships (1956)
B.S., Brigham Young University, 1950; Ed.D., Teachers College, Columbia University, 1956.
- Garron P. Anderson** Special Instructor in Mathematics (1960)
B.S., Brigham Young University, 1957.
- Keith P. Anderson** Professor of Chemistry (1953)
B.A., Brigham Young University, 1946; Ph.D., Cornell University, 1950.
- Richard L. Anderson** Associate Professor of Religion (1955)
B.A., M.A., Brigham Young University, 1951, 1957; LL.B., Harvard University, 1954.
- Vernon L. Anderson** Associate Professor of Modern Languages (1956)
B.A., M.A., University of Utah, 1948, 1949; Ph.D., Stanford University, 1954.
- Hyrum L. Andrus** Associate Professor of Religion (1956)
B.S., Ricks College, 1951; M.S. Brigham Young University, 1952; D.S.S., Syracuse University, 1955.
- J. Roman Andrus** Professor of Art and Education (1943)
B.S., M.S., Brigham Young University, 1942, 1943; Ed.D., University of Colorado, 1958; Art Students League, L.A. Art Institute.
- Chris J. Apostol** Instructor in Physical Education (1959)
B.S., Utah State University, 1950.
- Nina Mae Argyle** Special Instructor in Clothing and Textiles (1957)
B.S., Brigham Young University, 1955.
- Marilyn Arnold** Instructor in English (1959)
B.S., M.S., Brigham Young University, 1957, 1958.
- Nadine T. Ashby** Instructor in Business Education and Office Management (1960)
B.A., Brigham Young University, 1936; M.A., Colorado State College, 1959.
- Clarence D. Ashton** Associate Professor of Horticulture and Horticultural Specialties (1951)
B.S., Brigham Young University, 1929.
- Hyrum J. Babcock** Assistant Professor of Education (1954)
B.A., M.A., Ph.D., University of California, 1939, 1940, 1953.
- Milton V. Backman, Jr.** Assistant Professor of History and Philosophy of Religion (1960)
B.S., M.A., University of Utah, 1954, 1955; Ph.D., University of Pennsylvania, 1959.
- Dale S. Bailey** Assistant Professor of English (1955)
B.A., Brigham Young University, 1952; M.A., Columbia University, 1954.
- Ariel S. Ballif** Professor of Sociology (1938)
B.S., Brigham Young University, 1925; M.A., Ph.D., University of Southern California, 1937, 1945.
- Richard Ballou** Assistant Professor of Music (1951)
B.A., M.A., Brigham Young University, 1948, 1953.
- Blauer L. Bangerter** Assistant Professor of Physical Education (1953)
B.A., Brigham Young University, 1951; M.S., University of Utah, 1955.
- Reid E. Bankhead** Assistant Professor of Religion (1949)
B.S., University of Utah, 1947; M.Th., Brigham Young University, 1949.

- Dee H. Barker** Associate Professor of Chemical Engineering (1959)
B.S., Ph.D., University of Utah, 1948, 1951.
- Frances P. Barlow** Instructor in Human Development and
Family Relationships (1954)
B.S., University of Utah, 1933; M.Ed., Utah State University, 1938.
- Minnie Barlow** Special Instructor in Weaving and
Home Furnishings (1956)
B.S., University of Utah, 1920; M.A., Columbia University, 1936.
- J. Dean Barnett** Assistant Professor of Physics (1958)
B.A., University of Utah, 1954; Ph.D., University of Utah, 1959.
- Owen L. Barnett** Associate Professor of Educational Administration (1950)
B.S., M.S., Brigham Young University, 1923, 1927.
- Vesta Barnett** Instructor in Housing and Home Management (1956)
B.S., M.Ed., Brigham Young University, 1932, 1954.
- Vernon S. Barney** Assistant Professor of Health and
Physical Education (1953)
B.S., Utah State University, 1948; M.S., Brigham Young University, 1956; Diploma in
Physical Therapy, Children's Hospital Society School of Physical Therapy, Los
Angeles, California, 1952.
- Ivan J. Barrett** Assistant Professor of Religion (1953)
B.S., Utah State University, 1938; M.S., Brigham Young University, 1947.
- Howard H. Barron** Associate Professor of Religion (1953)
B.S., M.S., Utah State University, 1943, 1950; Ed.D., University of Utah, 1953.
- Davis Bartholomew** Professor of Electrical Engineering (1954)
B.S., University of Utah, 1928; M.S., University of Minnesota, 1940; P.E.E., University
of Utah, 1948.
- Cliff S. Barton** Associate Professor of Civil Engineering (1959)
B.S., Utah State University, 1947; M.S., Ph.D., Rensselaer Polytechnic Institute, 1953,
1959.
- J. LaVar Bateman** Associate Professor of Speech (1949)
B.A., Brigham Young University, 1941; M.S., Ph.D., University of Wisconsin, 1947,
1950.
- Edith Bartholomew Bauer** Associate Professor of Education (1945)
B.A., M.A., Brigham Young University, 1930, 1946; Ph.D., University of California
(Berkeley), 1956.
- Leland K. Baxter** Professor of Mechanical Engineering (1953)
B.S., University of New Mexico, 1948; M.S., Ph.D., Purdue University, 1952, 1953.
- D Elden Beck** Associate Professor of Zoology and Entomology (1938)
B.A., M.A., Brigham Young University, 1929, 1930; Ph.D., Iowa State College, 1933.
- Jay V. Beck** Professor of Bacteriology (1951)
B.A., M.A., Brigham Young University, 1933, 1936; Ph.D., University of California
(Berkeley), 1940.
- Wayne B. Beebe** Assistant Professor of Mechanical Engineering (1958)
B.S., M.S., California Institute of Technology, 1951, 1952.
- R. DerMont Bell** Assistant Professor of Business Education
and Office Management (1957)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of Southern
California, 1960.
- B. West Belnap** Professor of Religious Education (1951)
B.S., Brigham Young University, 1946; M.A., Ed.D., Columbia University, 1950, 1951.
- Erma Bennett** Instructor in Education (1956)
B.S., Brigham Young University, 1936.
- Marian Bennion** Associate Professor of Food and Nutrition (1952)
B.S., Utah State University, 1947; M.S., Teachers College, Columbia University,
1949; Ph.D., University of Wisconsin, 1956.

- Anthony I. Bentley** Assistant Professor of Religion (1954)
B.A., Brigham Young University, 1930; M.A., University of Southern California, 1940.
- Joseph T. Bentley** Comptroller; Associate Professor
of Accounting
B.S., M.S., Brigham Young University, 1928, 1954; C.P.A., State of Utah, 1946.
- John T. Bernhard** Administrative Assistant to the President; Professor of
Political Science (1959)
B.S., Utah State University, 1941; M.A., Ph.D., University of California at Los Angeles,
1949, 1951.
- William E. Berrett** Vice-President; Professor of Religion
B.A., LL.B., University of Utah, 1924, 1933.
- Max J. Berryessa** Assistant Director of Laboratory Schools for
Operation; Assistant Professor of Education (1948)
B.S., M.S., Brigham Young University, 1948, 1949; Ed.D., Stanford University, 1959.
- Brian S. Best** Special Instructor in English (1960)
B.S., Brigham Young University, 1958.
- Constance Bethers** Instructor in Nursing (1958)
B.S., University of Utah, 1954.
- Seth H. Bills** Instructor in Education (1956)
B.S., Utah State University, 1946; M.S., Brigham Young University, 1949.
- Harold J. Bissell** Professor of Geology (1938)
B.S., Brigham Young University, 1934; M.S., Ph.D., University of Iowa, 1936, 1948.
- Angus U. Blackham** Professor of Chemistry (1952)
B.A., Brigham Young University, 1949; M.A., Ph.D., University of Cincinnati, 1950,
1952.
- Robert W. Blair** Instructor in English (1959)
B.A., M.A., Brigham Young University, 1955, 1957.
- Mable Blanch** Special Instructor in English (1958)
B.A., Brigham Young University, 1950.
- T/Sgt. Paul V. Boman** Instructor in Air Science (1958)
- Reed H. Bradford** Professor of Sociology (1946)
B.A., Brigham Young University, 1937; M.A., Louisiana State University, 1939; M.A.,
Ph.D., Harvard University, 1941, 1946.
- Merrill K. Bradshaw** Instructor in Music (1957)
B.A., M.A., Brigham Young University, 1954, 1955; M.Mus., University of Illinois,
1956.
- Marion B. Brady** Assistant Professor of English (1957)
B.A., M.A., Brigham Young University, 1950, 1951.
- Margaret E. Brasher** Instructor in Food and Nutrition (1958)
B.S., Brigham Young University, 1957; M.S., State University of Iowa, 1958.
- Luella Edna Briick** Instructor in Nursing (1960)
B.S., University of California, 1959; M.A., University of Washington, 1960.
- Willis H. Brimhall** Instructor in Geology (1956)
B.S., Brigham Young University, 1949; M.S., University of Arizona, 1951; B.E.S.,
Brigham Young University, 1960.
- Ralph A. Britsch** Associate Professor of English (1938)
B.A., M.A., Brigham Young University, 1933, 1951.
- H. Smith Broadbent** Professor of Chemistry (1946)
B.S., Brigham Young University, 1942; Ph.D., Iowa State College, 1946.
- Jack Vernal Brown** Special Instructor in Languages (1958)
B.A., Brigham Young University, 1957.
- Thomas H. Brown** Assistant Professor of Languages (1959)
B.A., Brigham Young University, 1955; M.A., Ph.D., University of Illinois, 1957,
1960.

- Loren C. Bryner** Professor of Chemistry (1935)
B.S., M.S., Brigham Young University, 1928, 1930; Ph.D., Iowa State College, 1934.
- Maurine F. Bryner** Special Instructor in Food and Nutrition (1957)
B.S., Brigham Young University, 1928.
- Harold S. Budge** Instructor in Psychology (1960)
B.S., M.S., Utah State University, 1958, 1960.
- Kenneth C. Bullock** Professor of Geology (1943)
B.S., M.A., Brigham Young University, 1940, 1942; Ph.D., University of Wisconsin, 1949.
- Robert E. Bunker** Instructor in Physical Education;
Assistant Basketball Coach (1949)
B.S., Utah State University, 1937.
- M. Dallas Burnett** Assistant Professor of Journalism (1958)
B.S., Brigham Young University, 1954; M.S.J., Northwestern University, 1958.
- Wesley Burnside** Instructor in Art (1958)
B.S., M.S., Brigham Young University, 1941, 1949.
- Percy E. Burrup** Professor of Educational Administration (1952)
B.S., M.S., Utah State University, 1932, 1941; Ed.D., Colorado State College of Education, 1951.
- Alma P. Burton** Dean—Admissions and Records; Professor
of Educational Administration (1948)
B.S., Utah State University, 1948; M.S., Brigham Young University, 1950; Ed.D., University of Utah, 1957.
- A/IC Wilford W. Burton** Instructor in Air Science (1960)
- Jess R. Bushman** Assistant Professor of Geology (1955)
B.A., Brigham Young University, 1949; Ph.D., Princeton University, 1959.
- Richard L. Bushman** Assistant Professor of Religious Education (1960)
B.A., Ph.D., Harvard University, 1955, 1961.
- Eliot A. Butler** Associate Professor of Chemistry (1956)
B.S., Ph.D., California Institute of Technology, 1952, 1956.
- Newbern I. Butt** Assistant Professor of Library and Research (1922)
B.S., Utah State University, 1915; M.S., Brigham Young University, 1939.
- Edwin J. Butterworth** Assistant Professor of Journalism (1949)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1954.
- Glen H. Calder** Assistant Professor of Civil Engineering (1955)
B.S., M.S., Utah State University, 1952, 1953.
- JoAnn Calderwood** Instructor in Physical Education (1955)
B.S., Utah State University, 1953; M.S., State College of Washington, 1955.
- C. Boyd Call** Instructor in Physical Education (1960)
B.S., University of Utah, 1950; Physical Therapy Certificate from Children's Hospital in Los Angeles, 1953.
- Sterling G. Callahan** Professor of Education (1953)
B.A., Brigham Young University, 1937; M.A., George Washington University, 1947; Ed.D., University of Virginia, 1953.
- Eugene E. Campbell** Professor of History (1956)
B.A., M.A., University of Utah, 1939, 1940; Ph.D., University of Southern California, 1952.
- Jennie Campbell** Associate Professor of Education (1952)
B.S., Brigham Young University, 1928; M.A., Teachers College, Columbia University, 1937.
- Clawson Y. Cannon, Jr.** Assistant Professor of Music (1949)
B.M., Eastman School of Music, University of Rochester, 1948; Diploma, Konservatorium Zurich, 1953; B.A., M.A., Brigham Young University, 1954, 1955.

- *John N. Cannon** Assistant Professor of Mechanical Engineering (1957)
B.S.M.E., M.S., University of Utah, 1952, 1955. (On leave for graduate study at Stanford University.)
- Kenneth L. Cannon** Professor of Human Development and Family Relationships (1956)
B.S., Brigham Young University, 1935; M.S., Ph.D., Iowa State College, 1948, 1954.
- Mark W. Cannon** Associate Professor of Political Science (1961)
B.A., University of Utah, 1949; M.P.A., M.A., Ph.D., Harvard University, 1953, 1954, 1961.
- Louis B. Cardon** Instructor in History (1960)
B.A., University of Arizona, 1950; M.A., University of California at Berkeley, 1957.
- Arthur O. Chapman** Associate Professor of Zoology (1959)
B.A., Brigham Young University, 1941; M.A., University of Kansas, 1949; Ph.D., University of Nebraska, 1953.
- A. Norton Chaston** Instructor in Electrical Engineering (1957)
B.S., University of Utah, 1951.
- Diane R. Chatwin** Instructor in Physical Education (women) (1958)
B.A., University of Utah, 1956; M.S., University of Wisconsin, 1957.
- Thomas E. Cheney** Associate Professor of English (1945)
B.S., Utah State University, 1930; M.A., University of Idaho, 1936.
- Margaret Potter Childs** Assistant Professor of Clothing and Textiles (1946)
B.S., Brigham Young University, 1939; M.S., Oregon State College, 1949.
- Dean C. Christensen** Professor of Education (1957)
B.S., M.S., Utah State University, 1938, 1948; Ed.D., University of Oregon, 1957.
- Earl M. Christensen** Associate Professor of Botany (1949)
B.S., M.S., University of Utah, 1947, 1949; Ph.D., University of Wisconsin, 1954.
- Edward L. Christensen** Professor of Business Education and Office Management (1953)
B.S., M.S., Ph.D., University of Utah, 1938, 1939, 1953.
- James J. Christensen** Assistant Professor of Chemical Engineering (1957)
B.S., M.S., University of Utah, 1953, 1956; Ph.D., Carnegie Institute of Technology, 1957.
- Lillian Christensen** Assistant Professor of Education (1950)
B.S., University of Utah, 1938; M.S. Brigham Young University, 1957; Ph.D., Western Reserve University, 1958.
- Ross T. Christensen** Associate Professor of Archaeology (1952)
B.A., M.A., Brigham Young University, 1943, 1947; Ph.D., University of Arizona, 1956.
- John R. Christiansen** Associate Professor of Sociology (1957)
B.S., M.S., Utah State University, 1949, 1952; Ph.D., University of Wisconsin, 1955.
- Lee Russon Chugg** Special Instructor in Bacteriology (1958)
B.S., Utah State University, 1958.
- Bruce B. Clark** Professor of English (1950)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Utah, 1951.
- David Leigh Clark** Assistant Professor of Geology (1959)
B.S., M.S., Brigham Young University, 1953, 1954; Ph.D., University of Iowa, 1957.
- Harold Glen Clark** Professor of Education; Dean of Adult Education and Extension Services (1946)
B.S., Brigham Young University, 1928; M.S., University of Southern California, 1934; Ed.D., George Washington University, 1942.
- Herald R. Clark** Professor of Finance and Banking (1913)
B.A., Brigham Young University, 1918; M.B.A., University of Washington, 1924.
- J. Reuben Clark, III** Associate Professor of Modern Languages (1941)
B.A., University of Utah, 1934.

- James R. Clark** Associate Professor of Religious Instruction (1938)
B.A., M.A., Brigham Young University, 1936, 1944; Ed.D., Utah State University, 1958.
- Marden J. Clark** Associate Professor of English (1949)
B.A., M.A., Brigham Young University, 1948, 1949; Ph.D., University of Washington, 1957.
- Monroe H. Clark** Associate Professor of Philosophy of
Education and Guidance (1945)
B.A., Columbia University, 1923; M.A., Brigham Young University, 1927.
- A. John Clarke** Professor of Educational Administration (1938)
B.S., M.S., Brigham Young University, 1938, 1942; Ed.D., Colorado University, 1950.
- Morris M. Clinger** Assistant Professor of Speech (1936)
B.A., M.A., Brigham Young University, 1932, 1946.
- Coran L. Cluff** Assistant Professor of Chemistry (1960)
B.S., Arizona State University, 1952; M.S., University of Michigan, 1955.
- Lane A. Compton** Associate Professor of Physical Science
Education (1953)
B.S., M.S., Ed.D., University of Utah, 1943, 1951, 1955.
- D'Monte W. Coombs** Instructor in Civil Engineering (1959)
B.S., Utah State University, 1941; M.S., University of Utah, 1949.
- Ivan L. Corbridge** Associate Professor of Economics (1952)
B.A., Utah State University, 1946; M.S., University of Chicago, 1948; Ph.D., Washington State College, 1952.
- Stephen R. Covey** Assistant Professor of Business Management (1957)
B.S., University of Utah, 1953; M.B.A., Harvard Graduate School of Business Administration, 1957.
- Soren F. Cox** Instructor in English (1955)
B.A., M.A., Brigham Young University, 1952, 1956.
- Marshall R. Craig** Assistant Professor of English (1953)
B.S., Brigham Young University, 1941; M.A., Columbia University, 1947.
- Lars G. Crandall** Associate Professor of Business Education
and Office Management (1944)
B.S., M.S., Brigham Young University, 1944, 1945; Ph.D., Colorado State College, 1960.
- John K. Crnkovic** Assistant Director of the Laboratory Schools for
Curriculum and Teaching; Associate Professor of Education (1956)
B.A., Willamette University, 1930; M.A., University of Michigan, 1940; Ed.D., Arizona State University, 1956.
- Earl C. Crockett** Vice-President; Professor of Economics
B.S., University of Utah, 1927; Ph.D., University of California, 1931.
- Evan M. Croft** Associate Professor of Business Education
and Office Management (1936)
B.S., Brigham Young University, 1929; M.S., University of Southern California, 1940.
- David M. Crowton** Instructor in Physical Education; Assistant Coach (1937)
B.S., M.S., Brigham Young University, 1938, 1960.
- Robert M. Cundick** Assistant Professor of Music (1957)
B.F.A., M.F.A., Ph.D., University of Utah, 1949, 1950, 1955.
- Brandt B. Curtis** Instructor in Music (1955)
B.A., Brigham Young University, 1953; M.Mus., Indiana University, 1955.
- Delva Daines** Associate Professor of Education (1955)
B.S., M.S., Utah State University, 1940, 1947; Ed.D., State College of Washington, 1956.
- Alexander B. Darais** Assistant Professor of Art (1954)
B.S., Brigham Young University, 1948; M.F.A., Claremont Graduate School, 1952.

- Richard B. Davidson** Instructor in Mathematics (1960)
B.S., M.S., Brigham Young University, 1955, 1960.
- J. Kenneth Davies** Assistant Professor of Economics (1953)
B.S., Marquette University, 1948; M.S., Brigham Young University, 1950; Ph.D., University of Southern California, 1959.
- Glenn C. Davis** Instructor in Journalism (1959)
B.S., Brigham Young University, 1955; M.S., University of Illinois, 1957.
- Lawrence E. Day** Special Instructor in English (1959)
B.S., Brigham Young University, 1950.
- Edwin Dean** Associate Professor of Mathematics (1949)
B.S., M.S., Brigham Young University, 1947, 1952; M.S., University of Michigan, 1955.
- Daniel Decker** Assistant Professor of Physics (1958)
B.S., M.S., Brigham Young University, 1953, 1955; Ph.D., University of Illinois, 1958.
- Harry C. Dees** Instructor in Library Science (1959)
B.A., Brigham Young University, 1949; M.A., University of California, 1950.
- Gerrit de Jong, Jr.** Professor of Modern Languages; Dean Emeritus,
College of Fine Arts (1925)
B.A., M.A., University of Utah, 1920, 1925; Ph.D., Stanford University, 1933.
- Stanford D. DeMille** Instructor in Business Education and
Office Management (1957)
B.S., M.S., Brigham Young University, 1950, 1960.
- Dwight R. Dixon** Assistant Professor of Physics (1959)
B.S., Utah State University, 1942; Ph.D., University of California, 1955.
- Fred W. Dixon** Assistant Professor of Physical Education;
Tennis and Golf Coach (1928)
B.S., M.S., Brigham Young University, 1926, 1939.
- Mignon Domgaard** Instructor in Clothing and Textiles (1954)
B.S., Utah State University, 1943; M. of H.E., Oregon State College, 1954.
- David M. Donaldson** Associate Professor of Bacteriology (1955)
B.S., M.S., Ph.D., University of Utah, 1950, 1952, 1954.
- G. Byron Done** Professor of Religion (1956)
B.A., University of Utah, 1928; M.A., Ph.D., University of Southern California, 1937, 1939.
- Lester N. Downing** Professor of Personnel and Guidance (1954)
B.S., M.S., Utah State University, 1947, 1949; Ed.D., Colorado State College of Education, 1951.
- Roy W. Doxey** Assistant Professor of Religion (1948)
B.A., M.A., George Washington University, 1938, 1940.
- Willard B. Doxey** Assistant Professor of Economics (1956)
B.S. M.S., University of Utah, 1937, 1947; Ph.D., University of California (Berkeley), 1956.
- Marian A. Drury** Special Instructor in Nursing (1960)
B.S., University of Utah, 1960.
- J. Duane Dudley** Assistant Professor of Physics (1956)
B.S., Brigham Young University, 1952; M. A., Rice Institute, 1953.
- Claude B. Duerden** Assistant Professor of Health Education (1958)
B.S., University of Utah, 1950; M.P.H., University of California (Berkeley), 1954.
- Noel H. Duerden** Special Instructor in Journalism (1959)
B.S., Northwestern University, 1958.
- Keith E. Duke** Assistant Professor of Geography (1956)
B.A., University of California at Los Angeles, 1947; Docteur de l'Univ., Université de Bordeaux, France, 1950.

- Norma Alice R. Durfey** Instructor in Nursing (1960)
B.S., University of Utah, 1951.
- Captain Gerald J. Dye** Assistant Professor of Air Science (1957)
B.S., Utah State University, 1949; M.Ed., Miami University, Oxford, Ohio, 1954.
- William G. Dyer** Associate Professor of Sociology (1955)
B.A., M.A., Brigham Young University, 1950, 1952; Ph.D., University of Wisconsin, 1955.
- Leo B. Eager** Instructor in Economics (1959)
B.S.E.E., University of Utah, 1957; M.B.A., University of Michigan, 1959.
- Don L. Earl** Associate Professor of Music (1946)
B.A., M.A., Brigham Young University, 1940, 1947; Ph.D., Indiana University, 1952.
- E. John Eastmond** Professor of Physics (1951)
B.A., Brigham Young University, 1937; Ph.D., University of California (Berkeley), 1943.
- *Blaine E. Edlefsen** Instructor in Music (1953)
B.A., Brigham Young University, 1952; M.Mus., Eastman School of Music, University of Rochester, 1953. (On leave for further graduate study at Eastman School of Music.)
- Robert L. Egbert** Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1947, 1948; Ph.D., Cornell University, 1949.
- Richard Grant Ellsworth** Assistant Professor of English (1958)
B.A., M.A., Brigham Young University, 1951, 1952; Ph.D., University of Maryland, 1958.
- LaMar T. Empey** Associate Professor of Sociology (1955)
B.A., M.S., Brigham Young University, 1951, 1952; Ph.D., Washington State University, 1955.
- David L. Evans** Assistant Professor of English (1954)
B.A., Idaho State College, 1948; M.A., University of Utah, 1953.
- Dean B. Farnsworth** Professor of English (1953)
B.A., M.A., University of Utah, 1946, 1947; Ph.D., University of California (Berkeley), 1950.
- Raymond B. Farnsworth** Professor of Agronomy (1946)
B.S., Brigham Young University, 1937; M.S., Massachusetts State College, 1938; Ph.D., Ohio State University, 1941.
- M. Charles Faux** Assistant Professor of Business Management (1957)
B.S., University of Utah, 1952; M.B.A., Harvard Graduate School of Business Administration, 1954.
- Lawrence Fearnley** Assistant Professor of Mathematics (1957)
B.S., London University, 1953; Ph.D., University of Utah, 1959.
- Paul E. Felt** Assistant Professor of Religion (1957)
B.A., Brigham Young University, 1942; M.S., University of Utah, 1954.
- Hal G. Ferguson** Instructor in Sociology (1959)
B.A., M.A., Brigham Young University, 1954, 1957.
- *R. Kent Fielding** Assistant Professor of History (1952)
B.S., M.S., Brigham Young University, 1950, 1952; Ph.D., Indiana University, 1957. (On leave for post-doctoral research and writing.)
- Bliss B. Finlayson** Instructor in Clothing and Textiles (1959)
B.S., Brigham Young University, 1957; M.S., Cornell University, 1959.
- D. Allen Firmage** Professor of Engineering (1955)
B.S.C.E., University of Utah, 1940; M.S., Massachusetts Institute of Technology, 1941.
- Chad J. Flake** Instructor in Library Science (1953)
B.A., Brigham Young University, 1953; M.A., University of Denver, 1955.

- Royce P. Flandro** Assistant Professor of Education (1953)
B.S., M.S., University of Utah, 1948, 1950; Ed.D., University of Indiana, 1957.
- Harvey J. Fletcher** Associate Professor of Mathematics (1953)
B.S., Massachusetts Institute of Technology, 1944; M.S., California Institute of Technology, 1948; Ph.D., University of Utah, 1954.
- Herbert H. Frost** Associate Professor of Zoology (1960)
B.A., M.A., Brigham Young University, 1941, 1947; Ph.D., Cornell University, 1955.
- Dean K. Fuhriman** Professor of Engineering (1954)
B.S., M.S., Utah State University, 1941, 1950; Ph.D., University of Wisconsin, 1952.
- LaVell C. Gamett** Assistant Professor of Industrial Arts (1946)
B.S., Brigham Young University, 1935; M.S., University of Oregon, 1951.
- B. Delworth Gardner** Associate Professor of Economics (1959)
B.S., M.S., University of Wyoming, 1952, 1954; Ph.D., University of Chicago, 1960.
- Charles N. Gardner** Instructor in Mechanical Engineering (1957)
B.S., University of California (Berkeley), 1943.
- Elizabeth L. Gardner** Instructor in Clothing and Textiles and
in Housing and Design (1952)
B.S., Utah State University, 1948; M.S., University of California at Los Angeles, 1954.
- John H. Gardner** Professor of Physics (1949)
B.S., Utah State University, 1943; M.A., Ph.D., Harvard University, 1947, 1950.
- Byron W. Gassman** Assistant Professor of English (1960)
B.A., Brigham Young University, 1955; M.A., Ph.D., University of Chicago, 1956, 1960.
- Crawford Gates** Associate Professor of Music (1948)
B.A., San Jose State College, 1944; M.A., Brigham Young University, 1948; Ph.D., Eastman School of Music, University of Rochester, 1954.
- David D. Geddes** Assistant Professor of Physical Education and Health (1952)
B.S., M.S., Brigham Young University, 1950, 1952; Ph.D., University of Southern California, 1959.
- Burton C. Gee** Instructor in Mathematics (1960)
B.S., Brigham Young University, 1951; M.S., Oregon State College, 1958.
- O. Norman Geertsen** Assistant Professor of Physics (1941)
B.S., Brigham Young University, 1930; M.S., University of California at Los Angeles, 1951.
- Eileen Gibbons** Instructor in English (1959)
B.S., Utah State University, 1953; M.A., Brigham Young University, 1959.
- M. Carl Gibson** Assistant Professor of Modern and
Classical Languages (1949)
B.A., M.A., Brigham Young University, 1947, 1949; Ph.D., University of Oregon, 1960.
- Lt. Colonel William J. Gibson** Professor of Air Science (1959)
B.S., Utah State University, 1948.
- Gurcharan S. Gill** Instructor in Mathematics (1960)
B.S., Brigham Young University, 1958; M.S., University of Utah, 1960.
- Preston R. Gledhill** Associate Professor of Speech (1947)
Degré Supérieur, La Sorbonne, 1938; B.A., Brigham Young University, 1939; M.A., Louisiana State University, 1940; Ph.D., University of Wisconsin, 1951.
- J. Rex Goates** Professor of Chemistry (1947)
B.S., Brigham Young University, 1942; Ph.D., University of Wisconsin, 1947.
- Max C. Golightly** Instructor in Speech (1960)
B.A., M.A., Brigham Young University, 1950, 1959.
- A. Harold Goodman** Associate Professor of Music (1960)
B.A., University of Arizona, 1947; M.A., Ed.D., University of Southern California, 1951, 1960.

- Nan Osmond Grass** Assistant Professor of English (1951)
B.A., Brigham Young University, 1930; M.A., Stanford University, 1954.
- Karen M. Grimmett** Special Instructor in Physical Education (1960)
B.S., Brigham Young University, 1959.
- Lue S. Groesbeck** Instructor in Music (1957)
B.A., Brigham Young University, 1948.
- Stewart L. Grow** Professor of History and Political Science (1947)
B.S., M.S., Brigham Young University, 1935; 1948; Ph.D., University of Utah, 1954.
- Clark J. Gubler** Associate Professor of Chemistry (1958)
B.A., Brigham Young University, 1939; M.A., Utah State University, 1941; Ph.D., University of California, 1945; Established Investigator: the American Heart Association, 1960.
- Donworth Gubler** Instructor in Modern Languages (1954)
B.A., M.A., Brigham Young University, 1948, 1949.
- Richard L. Gunn** Associate Professor of Art and Education (1948)
B.S., M.S., Brigham Young University, 1947, 1950 d.D., Stanford University, 1955; Banff School of Art.
- Fred E. Guymon** Instructor in Business Education and Office Management (1955)
B.S., University of Utah, 1948; M.E., University of Cincinnati, 1951.
- LeRoy R. Hafen** Professor of History (1954)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1919; Ph.D., University of California, 1924; Litt.D., University of Colorado, 1935.
- William J. Hafen** Assistant Professor of Recreation; Director of Intramurals (1954)
B.S., Brigham Young University, 1950; M.A., State College of Washington, 1953; D.R., Indiana University, 1960.
- Richard W. Hales** Associate Professor of Physics (1952)
B.S., Iowa State College, 1946; Ph.D., University of California, 1952.
- Wayne B. Hales** Professor of Physics and Mathematics; Dean of General College (1930)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1922; Ph.D., California Institute of Technology, 1926.
- S/Sgt. George M. Hall** Instructor in Air Sciences (1958)
- H. Tracy Hall** Professor of Chemistry; Director of the Research Division (1955)
B.S., M.S., Ph.D., University of Utah, 1942, 1948.
- Merrill J. Hallam** Professor of Agronomy (1952)
B.A., Brigham Young University, 1950; B.S., Iowa State College, 1952.
- John R. Halliday** Professor of Music (1936)
B.A., M.A., Brigham Young University, 1936; Ph.D., Eastman School of Music, University of Rochester, 1941.
- Lawson D. Hamblin** Assistant Professor of Library Science (1948)
B.A., Brigham Young University, 1938; B.S., Washington College of Law, 1948.
- George H. Hansen** Professor of Geology and Geography (1927)
B.S., Utah State University, 1918; M.S., George Washington University, 1925, 1927.
- Harold I. Hansen** Professor of Speech (1952)
B.S., Utah State University, 1937; Ph.D., State University of Iowa, 1940, 1949, 1939.
- Margaret H. Hansen** Special Instructor in English (1960)
B.A., Brigham Young University, 1928-33, 1954.

- Ralph W. Hansen** Instructor in Library Science (1953)
B.A., M.A., Brigham Young University, 1951, 1954.
- Terrence L. Hansen** Associate Professor of Languages (1960)
B.A., University of Utah, 1946; M.A., Ph.D., Stanford University, 1948, 1950.
- Kenneth R. Hardy** Associate Professor of Psychology (1954)
B.A., M.A., University of Utah, 1948, 1949; Ph.D., University of Michigan, 1954.
- Callis R. Harms** Assistant Professor of Educational Administration (1960)
B.S., M.Ed., Brigham Young University, 1952, 1956.
- James M. Harris** Associate Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1952, 1953; Ph.D., Cornell University, 1955.
- John B. Harris** Instructor in English (1958)
B.A., M.A., Brigham Young University, 1955, 1956.
- Bertrand F. Harrison** Professor of Botany (1929)
B.S., M.S., Brigham Young University, 1930, 1931; Ph.D., University of Chicago, 1937.
- Charles J. Hart** Professor of Recreation and of Physical and Health Education (1925)
B.S., Utah State University, 1921; M.A., Ed.D., New York University, 1932, 1945.
- David K. Hart** Instructor in Political Science (1960)
B.S., Brigham Young University, 1957; M.A., University of California at Berkeley, 1960.
- Edward L. Hart** Professor of English (1952)
B.S., University of Utah, 1939; M.A., University of Michigan, 1941; D.Phil., Oxford University (England), 1950.
- Milton F. Hartvigsen** Professor of Physical Education; Dean of the College of Physical Education (1956)
B.S., M.Ed., Utah State University, 1930, 1939; Ed.D., University of California at Los Angeles, 1956.
- Floyd E. Haupt** Instructor in Mathematics (1954)
B.S., M.S., University of Arizona, 1947, 1948.
- Richard T. Hawkins** Assistant Professor of Chemistry (1959)
B.A., Brigham Young University, 1951; Ph.D., University of Illinois, 1959.
- C. Lynn Hayward** Professor of Zoology (1930)
B.S., M.S., Brigham Young University, 1927, 1931; Ph.D., University of Illinois, 1941.
- Alma Heaton** Assistant Professor of Recreation (1953)
B.S., M.S., Utah State University, 1919, 1951.
- Israel C. Heaton** Professor of Recreation (1956)
B.S., M.S., Utah State University, 1930, 1941; Re.D., University of Indiana, 1955.
- Charles A. Henson** Special Instructor in Speech (1958)
B.S., M.S., Brigham Young University, 1957, 1959.
- Richard H. Henstrom** Instructor in Speech (1957)
B.F.A., M.F.A., University of Utah, 1919, 1953.
- Karl P. Herde, Jr.** Instructor in Business Education and Office Management (1957)
B.S., M.S., Brigham Young University, 1949, 1956.
- Jean-Pierre Heudier** Instructor in Languages (1960)
B.A., Montana State University, 1919; M.A., Brigham Young University, 1960.
- Dustin H. Heuston** Special Instructor in English (1959)
B.A., Hamilton College, 1954; M.A., Stanford University, 1959.
- Armin J. Hill** Professor of Physics; Dean of the College of Physics and Engineering Sciences (1957)
B.S., M.S., Montana State College, 1932, 1933; S.B., Ph.D., California Institute of Technology, 1949, 1950.
- L. Douglas Hill** Instructor in English (1959)
B.S., Brigham Young University, 1954.

- Max W. Hill** Assistant Professor of Physics (1958)
B.A., Brigham Young University, 1954; Ph.D., University of California, 1959.
- *Kenneth L. Hillam** Instructor in Mathematics (1957)
B.S., M.S., University of Utah, 1949, 1956. (On leave for further graduate study at the University of Colorado.)
- Ray C. Hillam** Instructor in Political Science (1960)
B.A., University of Utah, 1955; M.A., George Washington University, 1958.
- Lynn M. Hilton** Associate Professor of Education (1953)
B.S., M.S., University of Utah, 1950; Ph.D., University of Chicago, 1952.
- Lehi F. Hintze** Professor of Geology (1955)
B.A., University of Utah, 1941; M.A., Ph.D., Columbia University, 1949, 1951.
- Cynthia C. Hirst** Instructor in Physical Education (1948)
B.A., University of Utah, 1947; M.S., University of Washington, 1952.
- Leona Holbrook** Professor of Physical Education (1937)
B.S., University of Utah, 1929; M.A., Ed.D., Columbia University, 1935, 1950.
- Richard L. Holbrook** Assistant Professor of Human Development
and Family Relationships (1959)
B.S., University of Utah, 1950; M.S., Columbia University, 1952.
- Clarence J. Holtkamp** Special Instructor in Industrial Education (1959)
B.S., University of New Mexico, 1949.
- Shirl J. Hone** Instructor in Mathematics (1959)
B.S., Utah State University, 1949; M.S., Northwestern University, 1952.
- Keith H. Hoopes** Assistant Professor of Animal Husbandry (1957)
B.S., Utah State University, 1957; D.V.M., State College of Washington, 1956.
- Ethel Lee Horner** Instructor in Food and Nutrition (1953)
B.S., University of Utah, 1946.
- A. Burt Horsley** Assistant Professor of Philosophy and Religion (1956)
B.A., M.A., Brigham Young University, 1945, 1954; Dd.P., Münster University, 1955;
Ph.D., Westphalian Welhelms Universität, Münster, Germany, 1956.
- Frank Horton** Instructor in English (1955)
B.A., Brigham Young University, 1951; M.A., University of Southern California, 1957.
- William A. Hoskisson** Assistant Professor of Bacteriology (1957)
B.S., M.S., Utah State University, 1938, 1941; Ph.D., University of Illinois, 1944.
- Alice E. Howe** Instructor in English (1959)
B.A., M.A., Brigham Young University, 1958, 1959.
- Robert J. Howell** Professor of Psychology (1952)
B.A., M.A., Ph.D., University of Utah, 1948, 1949, 1951.
- Darcus D. Hyde** Instructor in English (1957)
B.A., Brigham Young University, 1956.
- Venice Hyde** Special Instructor in Library Science (1961)
B.S., Brigham Young University, 1955.
- Paul V. Hyer** Assistant Professor of History (1957)
B.A., Brigham Young University, 1951; M.A., Ph.D., University of California, 1953,
1960.
- Scott S. Hymas** Instructor in English (1958)
B.A., Brigham Young University, 1955; M.A., Western Reserve University, 1958.
- Reed M. Izatt** Associate Professor of Chemistry (1956)
B.S., Utah State University, 1951; Ph.D., Pennsylvania State University, 1954.
- Briant S. Jacobs** Professor of English (1946)
B.A., Brigham Young University, 1939; Ph.D., State University of Iowa, 1944.
- Phyllis C. Jacobson** Instructor in Physical Education for Women (1957)
B.S., M.S., Utah State University, 1953, 1954.

- M. Wells Jakeman** Professor of Archaeology (1946)
B.A., University of Utah, 1931; M.A., University of Southern California, 1932; Ph.D.,
University of California, 1938.
- Martha R. Jenny** Associate Professor of Nursing (1952)
Diploma, Presbyterian Hospital School of Nursing, Chicago, 1926; B.S., Teachers
College, Columbia University, 1939; M.S., University of Wisconsin, 1946.
- De Lamar Jensen** Assistant Professor of History (1957)
B.A., Brigham Young University, 1952; M.A., Ph.D., Columbia University, 1953, 1957.
- Mary B. Jensen** Instructor in Physical Education and Recreation (1953)
B.A., Park College of Missouri, 1939.
- Vern H. Jensen** Assistant Professor of Personnel Guidance (1949)
B.S., M.S., Brigham Young University, 1948, 1950; Ed.D., University of Colorado,
1957.
- Lucille N. Jensen** Instructor in Human Development and
Family Relationships (1956)
B.S., University of Utah, 1951; M.S., Kansas State College, 1956.
- Gloria D. Jensen** Instructor in Library Science (1954)
B.S., Brigham Young University, 1950; M.S., Columbia University, 1954.
- Ernest C. Jeppsen** Professor of Industrial Education and
Coordinator, Industrial and Technical Education (1959)
B.S., Utah State University, 1926; M.S., Colorado State University, 1938.
- J. Lorin Jex** Assistant Professor of Speech (1949)
B.A., M.A., Brigham Young University, 1947, 1950.
- Franz M. Johansen** Instructor in Art (1956)
B.A., M.A., Brigham Young University, 1955, 1960; Illinois Institute of Technology,
California School Arts and Crafts.
- Eldred A. Johnson** Associate Professor of Accounting (1955)
B.A., M.A., Brigham Young University, 1949, 1950; C.P.A., California, 1952.
- Jens J. Jonsson** Professor of Electrical Engineering (1953)
B.S.G.E., B.S.E.E., University of Utah, 1944, 1946; M.S.E.E., Ph.D., Purdue University,
1947, 1951.
- Eleanor Jorgensen** Assistant Professor of Clothing and Textiles (1949)
B.S., Brigham Young University, 1946; M.S., Kansas State College, 1954.
- Edgar Karst** Assistant Professor of Mathematics (1958)
B.S., University of Gottingen, Germany, 1938; M.S., University of Breslau, Germany,
1942.
- Joseph J. Keeler** Assistant Professor of Music; University Organist (1935)
B.S., M.A., Brigham Young University, 1940, 1950.
- C. Rodney Kimball** Instructor in Physical Education and Health (1937)
B.S., Brigham Young University, 1955.
- Edwin R. Kimball** Professor of Physical Education (1935)
B.S., Brigham Young University, 1926; M.S., University of Southern California, 1935;
Ed.D., University of Oregon, 1955.
- Alma W. King** Assistant Professor of Religion (1956)
B.S., M.S., Brigham Young University, 1930, 1936.
- Francis Kirkham** Special Instructor in Religious Instruction (1959)
B.A., University of Michigan, 1906; LL.B., University of Utah, 1913; Ph.D., University
of California, 1930.
- Hattie M. Knight** Assistant Professor of Library Science (1941)
B.S., Brigham Young University, 1941; B.S., in L.S., University of Denver, 1943; M.S.,
in L.S., George Peabody College for Teachers, 1951.
- Marion Kohler** Assistant Professor of Nursing (1954)
Diploma, Salt Lake General Hospital, 1943; B.S., Brigham Young University, 1951;
M.N., University of Washington, 1957.
- Mary A. Krider** Associate Professor of Educational Psychology (1954)
B.A., University of Nebraska, 1927; Ed.M., University of Oklahoma, 1940; Ed.D.,
Wayne State University, 1959.

- Donald A. Kugath** Instructor in Mechanical Engineering (1960)
B.E.S., Brigham Young University, 1959; M.S., California Institute of Technology, 1960.
- Jean T. Kunz** Instructor in Human Development and Family Relationships (1957)
B.S., University of Idaho, 1940; M.A., George Peabody College, 1956.
- Valerie G. Langer** Special Instructor in Nursing (1960)
B.S., University of Utah, 1958.
- A. Dean Larsen** Instructor in Library Science (1956)
B.S., Brigham Young University, 1954; M.S., University of Michigan, 1960.
- Don H. Larsen** Professor of Bacteriology (1952)
B.S., Brigham Young University, 1940; M.A., University of Nebraska, 1942; Ph.D., University of Utah, 1950.
- Kenneth M. Larsen** Assistant Professor of Mathematics (1960)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1956.
- Vernon W. Larsen** Associate Professor of Sociology (1952)
B.A., M.A., Brigham Young University, 1949, 1950; Ph.D., Cornell University, 1957.
- Clinton F. Larson** Associate Professor of English (1947)
B.A., M.A., University of Utah, 1943, 1947; Ph.D., University of Denver, 1956.
- Gustive O. Larson** Associate Professor of Church History and Philosophy (1954)
B.A., M.A., University of Utah, 1920, 1926.
- Reuben D. Law** Professor of Education (1936)
B.S., M.S., Utah State University, 1928, 1933; Ed.D., University of Southern California, 1941.
- W. Derby Laws** Professor of Agronomy (1960)
B.A., Brigham Young University, 1939; M.S., Utah State University, 1941; Ph.D., Ohio State University, 1944.
- Harold R. Laycock** Assistant Professor of Music (1949)
B.A., M.A., Brigham Young University, 1937, 1947.
- Ralph G. Laycock** Assistant Professor of Music (1953)
B.A., Brigham Young University, 1941; M.S., Juilliard School of Music, N.Y.C., 1948.
- Robert L. Layton** Assistant Professor of Geography (1954)
B.S., M.S., University of Utah, 1951, 1952.
- Harold W. Lee** Professor of Modern Languages (1937)
B.A., M.A., Brigham Young University, 1938, 1940; Ph.D., Stanford University, 1946.
- Stella Dixon Lewis** Special Instructor in Housing and Home Management (1956)
B.S., Brigham Young University, 1938.
- Wesley P. Lloyd** Professor of Personnel and Guidance;
Dean of Graduate School (1935)
B.S., M.S., Brigham Young University, 1927, 1934; Ph.D., University of Chicago, 1937.
- Lester Long** Special Instructor in Industrial Education (1959)
B.S., Brigham Young University, 1958.
- Howard D. Lowe** Professor of Finance and Banking (1947)
B.S., M.A., Utah State University, 1945, 1948; C.P.A., Utah, 1949; D.B.A., Indiana University, 1957.
- Daniel H. Ludlow** Professor of Religion (1955)
B.S., Utah State University, 1946; M.S., Indiana University, 1953; Ed.D., Columbia University, 1955.
- Ross "J" McArthur** Assistant Professor of Industrial Arts (1956)
B.S., M.S., Utah State University, 1949, 1953; Ed.D., University of Missouri, 1955.
- Cleo McCracken** Instructor in Personnel and Guidance (1954)
B.S., Utah State University, 1937; M.A., Syracuse University, 1951.

- Major Donald E. McCulloch** Assistant Professor of Air Science (1960)
B.S., Columbia University, 1957.
- Keith L. McDonald** Assistant Professor of Physics (1960)
B.S., M.S., Ph.D., University of Utah, 1950, 1951, 1956.
- Quinn G. McKay** Associate Professor of Business Management (1960)
B.S., Brigham Young University, 1956; M.B.A., D.B.A., Harvard University, 1956, 1960.
- John E. McKendrick** Assistant Professor of English (1953)
B.A., M.A., University of Utah, 1942, 1949.
- Lynn A. McKinlay** Assistant Professor of Speech (1955)
Certificate, Post Graduate Certificate, Pasadena Community Playhouse, College of Theatre Arts, 1936, 1937.
- Max E. McKinnon** Instructor in Industrial Arts (1957)
B.S., M.S., Utah State University, 1949, 1954.
- Kent H. McKnight** Associate Professor of Botany (1947)
B.S., M.S., Brigham Young University, 1948, 1952; Ph.D., University of Michigan, 1955.
- Maughan W. McMurdie** Special Instructor in Music (1959)
B.S., Utah State University, 1954.
- Delbert H. McNamara** Associate Professor of Physics (1955)
B.S., Ph.D., University of California (Berkeley), 1947, 1950.
- C. Craig McNeil** Instructor in English (1959)
B.S., M.A., Brigham Young University, 1955, 1960.
- Walter E. McPhie** Assistant Professor of Education (1959)
B.S., Utah State University, 1952; M.A., University of Utah, 1953; Ed.D., Stanford University, 1959.
- Melvin P. Mabey** Associate Professor of History and Political Science (1955)
B.S., M.A., Brigham Young University, 1947, 1953; D. Phil., Oxford University (England), 1955.
- Harold S. Madsen** Instructor in English (1957)
B.A., M.A., University of Utah, 1953, 1960.
- Truman G. Madsen** Assistant Professor of Philosophy and Religion (1957)
B.S., M.S., University of Utah, 1951, 1952; A.M., Ph.D., Harvard University, 1957, 1960.
- Francis R. Magleby** Instructor in Art (1959)
B.S., M.S., Brigham Young University, 1950, 1951; Art Students League, Columbia University.
- Garth L. Mangum** Associate Professor of Economics (1960)
B.S., Brigham Young University, 1956; M.P.A., Ph.D., Harvard University, 1958, 1960.
- Robert P. Manookin** Instructor in Library Science (1959)
B.A., Brigham Young University, 1955; M.Mus., University of Illinois, 1959.
- Milton Marshall** Professor of Physics (1919)
B.A., Brigham Young University, 1918; Ph.D., University of Chicago, 1924.
- Conan E. Mathews** Professor of Art; Dean of the College of Fine Arts (1956)
B.A., College of Idaho, 1936; M.F.A., University of Utah, 1950; California School of Fine Arts, Columbia University.
- Merlin J. Mecham** Associate Professor of Speech (1954)
B.A., Brigham Young University, 1948; M.S., Utah State University, 1949; Ph.D., Ohio State University, 1954.
- Richard L. Meibos** Instructor in Chemistry (1955)
B.A., Brigham Young University, 1952.
- J. Keith Melville** Assistant Professor of Political Science (1957)
B.A., University of Utah, 1947; M.A., University of California, 1949; Ph.D., University of Utah, 1956.

- Evan J. Memmott** Instructor in Education (1955)
B.S., M.S., Utah State University, 1950, 1952; M.S., Indiana University, 1953.
- Keith H. Meservy** Instructor in Religion (1958)
B.A., Brigham Young University, 1951.
- Elaine Michaelis** Special Instructor in Physical Education (1960)
B.S., Brigham Young University, 1960.
- Carol Michie** Special Instructor in Speech (1959)
B.S., Brigham Young University, 1959.
- Louis C. Midgley** Instructor in Political Science (1960)
B.A., M.S., University of Utah, 1954, 1957.
- *Seymour Mikkelsen** Instructor in Animal Husbandry (1956)
B.S., Brigham Young University, 1948. (On leave for overseas assignment.)
- Martin L. Miller** Assistant Professor of Physics and Mathematics (1942)
B.A., M.A., Brigham Young University, 1942, 1950.
- Marion Millett** Assistant Professor of Geography (1958)
B.A., University of Southern California, 1954; M.A., University of Colorado, 1956.
- Gayle F. Miner** Assistant Professor of Electrical Engineering (1960)
B.S., M.S., University of Utah, 1959, 1960.
- Albert O. Mitchell** Professor of Speech and Dramatic Arts (1956)
B.S., M.S., University of Utah, 1933, 1935; Ph.D., University of Wisconsin, 1938.
- Hal D. Mitchell** Instructor in Physical Education (1959)
B.S., University of California (Los Angeles), 1953.
- Olive K. B. Mitchell** Instructor in English (1947)
B.A., University of Arizona, 1932; M.A., Brigham Young University, 1934.
- Rudy Moe** Instructor in Physical Education (1959)
B.A., Concordia College, Moorhead, Minnesota, 1953.
- J. C. Moffitt** Professor of Educational Administration and Special Consultant
to the Department of Educational Administration (1953)
B.S., M.S., Brigham Young University, 1926, 1929; Ph.D., University of Chicago, 1940.
- Elaine R. Monsen** Instructor in Food and Nutrition (1960)
B.A., University of Utah, 1956; M.S., University of California, 1959.
- R. Joseph Monsen** Assistant Professor of Economics (1960)
B.S., University of Utah, 1953; M.A., Stanford University, 1954; Ph.D., University of California at Berkeley, 1960.
- Darrel J. Monson** Associate Professor of Electrical Engineering (1956)
B.S., University of Utah, 1943; M.S., University of California (Berkeley), 1952.
- Samuel C. Monson** Associate Professor of English (1952)
B.S., Utah State University, 1941; M.A., Ph.D., Columbia University, 1948, 1953.
- Glen Moore** Assistant Professor of Botany (1958)
B.S., M.S., Brigham Young University, 1949, 1950; Ph.D., University of Chicago, 1953.
- Alonzo J. Morley** Professor of Speech (1928)
B.A., M.A., Brigham Young University, 1925, 1931; Ph.D., University of Iowa, 1935.
- Jeannette Morrell** Instructor in English (1956)
B.A., M.A., University of Utah, 1933, 1935.
- A. Reed Morrill** Professor of Educational Administration (1948)
B.S., M.S., Brigham Young University, 1928, 1937; Ed.D., University of Oregon, 1948.
- Lawrence Morris** Professor of Animal Husbandry (1952)
B.S.A., University of Arizona, 1925; M.S., Texas A. & M., 1928; Ph.D., Louisiana State University, 1938.
- Sadie O. Morris** Professor of Food and Nutrition (1957)
B.S., M.S., Utah State University, 1921, 1922; Ph.D., Columbia University, 1933.

- J. Richard Murdock** Assistant Professor of Botany (1952)
B.S., M.S., Brigham Young University, 1949, 1951; Ph.D., State College of Washington, 1957.
- Joseph R. Murphy** Assistant Professor of Zoology (1960)
B.A., M.A., Brigham Young University, 1941, 1947; Ph.D., University of Nebraska, 1957.
- William V. Nash** Instructor in Library Science (1957)
B.A., Brigham Young University, 1950; M.S., University of Illinois, 1957.
- Glen T. Nelson** Professor of Economics (1954)
B.S., M.S., Utah State University, 1942, 1948; Ph.D., University of Illinois, 1950.
- H. Mark Nelson** Assistant Professor of Physics (1959)
B.S., M.S., Brigham Young University, 1953, 1954; Ph.D., Harvard University, 1959.
- K. LeRoi Nelson** Associate Professor of Chemistry (1956)
B.S., Utah State University, 1948; Ph.D., Purdue University, 1952.
- Hugh W. Nibley** Professor of History and Religion (1946)
B.A., University of California at Los Angeles, 1934; Ph.D., University of California, 1938.
- Henry J. Nicholes** Associate Professor of Health Education (1946)
B.A., Brigham Young University, 1935; M.S., Ph.D., University of Wisconsin, 1939, 1941.
- Fred K. Nielsen** Instructor in Religious Instruction (1956)
B.A., M.A., Harvard University, 1954, 1955.
- Eve Nielson** Instructor in Library Science (1949)
B.S., Utah State University, 1945; M.S., University of Southern California, 1959.
- Howard C. Nielson** Associate Professor of Economics (1957)
B.S., University of Utah, 1947; M.S., University of Oregon, 1949; M.B.A., Ph.D., Stanford University, 1956, 1957.
- Sandra H. Noall** Special Instructor in Nursing (1960)
B.S., University of Utah, 1960.
- Quentin R. Nordgren** Assistant Professor of Music (1955)
B.A., M.A., Brigham Young University, 1942, 1950; Ph.D., Indiana University, 1955.
- Drayton B. Nuttall** Professor of Educational Administration
and Director of Educational Research (1960)
B.A., M.A., University of Utah, 1936, 1941; Ed.D., University of California at Berkeley, 1951.
- Keith R. Oakes** Professor of Educational Administration (1957)
B.S., M.S., Utah State University, 1940, 1948; Ed.D., University of Southern California, 1954.
- Clinton L. Oaks** Professor of Business Management (1957)
B.A., Brigham Young University, 1948; M.B.A., Ph.D., Stanford University, 1950, 1955.
- J. Lloyd Olpin** Assistant Professor of Mathematics (1955)
B.S., Brigham Young University, 1925; M.S., Colorado University, 1938.
- Ernest L. Olson** Assistant Professor of English (1953)
B.A., M.A., University of Utah, 1948, 1949.
- John E. Ord** Assistant Professor of Education (1957)
B.S., Utah State University 1940; M.S., University of Utah, 1949; Ed.D., Stanford University, 1958.
- Scott G. Orrock** Instructor in Personnel and Guidance (1953)
B.A., M.A., Brigham Young University, 1952, 1953.
- James B. Ott** Assistant Professor of Chemistry (1960)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of California, 1959.

- Glen F. Ovard** Assistant Professor of Educational Philosophy (1958)
B.S., M.S., Brigham Young University, 1949, 1954; Ed.D., Stanford University, 1958.
- Joseph Owens** Curator in Geology (1957)
B.S., Brigham Young University, 1957.
- N. Margene Pace** Special Instructor in Nursing (1961)
B.S., University of Utah, 1957.
- Thane J. Packer** Associate Professor of Youth Leadership (1959)
B.S., Utah State University, 1939.
- Kathryn B. Pardoe** Assistant Professor of Speech (1947)
B.A., Brigham Young University, 1934.
- Clyde A. Parker** Associate Professor of Personnel and Guidance (1953)
B.S., M.S., Brigham Young University, 1952; Ph.D., University of Minnesota, 1957.
- Robert C. Patch** Assistant Professor of Religion (1959)
B.A., University of New Mexico, 1945; M.A., Brigham Young University, 1949.
- Jean R. Paulson** Assistant Professor of Journalism (1960)
B.A., Brigham Young University, 1930.
- John W. Payne** Assistant Professor of Sociology (1947)
B.A., M.A., Brigham Young University, 1936, 1948.
- Glenn L. Pearson** Assistant Professor of Religion (1951)
B.S., Utah State University, 1949; M.A., Brigham Young University, 1951.
- Marie J. Pehrson** Special Instructor in English (1960)
B.A., University of Utah, 1934; M.A., Los Angeles State College, 1960.
- Van L. Perkins** Instructor in History (1960)
B.A., University of Utah, 1956; M.A., Harvard University, 1958.
- Dean A. Peterson** Associate Professor of Business Education and
Office Management; Director of the Summer School (1942)
B.S., Brigham Young University, 1938; M.S., Ed.D., University of Southern California,
1942, 1959.
- Evan T. Peterson** Assistant Professor of Sociology (1959)
B.S., M.S., Brigham Young University, 1952, 1953; Ph.D., University of Michigan,
1959.
- Hugh W. Peterson** Associate Professor of Chemistry (1927)
B.A., M.A., Brigham Young University, 1916, 1928; Ph.D., State University of Iowa,
1936.
- William Revell Phillips** Assistant Professor of Geology (1957)
B.S., M.S., Ph.D., University of Utah, 1950, 1951, 1954.
- Guy Pierce** Assistant Professor of Industrial Arts (1953)
B.S., Brigham Young University, 1953; M.S., University of Minnesota, 1956.
- Leonid Polevoy** Instructor in Languages (1960)
B.A., M.A., Harvard University, 1948, 1950.
- Richard D. Poll** Professor of History and Political Science (1948)
B.A., M.A., Texas Christian University, 1938, 1939; Ph.D., University of California,
(Berkeley), 1948.
- J. Perry Polson** Assistant Professor of Business Education
and Office Management (1952)
B.S., M.S., University of Utah, 1947, 1952; Ph.D., University of Southern California,
1961.
- *Bill J. Pope** Associate Professor of Chemical Engineering (1958)
B.S., University of Utah, 1947; M.S., Ph.D., University of Washington, 1948, 1959.
(On leave for employment abroad.)
- Blaine M. Porter** Professor of Human Development and
Family Relationships (1955)
B.S., M.A., Brigham Young University, 1947, 1949; Ph.D., Cornell University, 1952.
- Norma Potter** Instructor in Nursing (1953)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1931; B.S., University of Utah,
1950.

- Virginia B. Poulson** Assistant Professor of Homemaking Education (1950)
B.S., Brigham Young University, 1931; M.Ed., Colorado A. & M., 1955.
- Parley M. Pratt** Associate Professor of Business Management (1960)
B.A., University of Utah, 1950; M.B.A., Harvard Graduate School of Business,
1954; Ph.D., Ohio State University, 1960.
- *Victor W. Purdy** Instructor in Library Science (1954)
B.S., Brigham Young University, 1952; M.S., Columbia University, 1957. (On leave
for graduate study.)
- Ellis T. Rasmussen** Assistant Professor of Religious Instruction (1951)
B.S., M.A., Brigham Young University, 1942, 1951.
- Lynn A. Ravsten** Instructor in Psychology (1957)
B.S., Brigham Young University, 1953; M.A., Stanford University, 1956.
- Edwin A. Read** Director of Laboratory Schools; Associate
Professor of Education (1959)
B.Ed., M.Ed., University of Alberta, 1948, 1949; Ed.D., University of Oregon, 1956.
- Eleanor K. Ream** Instructor in Food and Nutrition (1956)
B.A., Brigham Young University, 1954.
- Captain Garland L. Reasor** Assistant Professor of Air Science (1959)
- Jesse W. Reeder** Associate Professor of History and
Political Science (1952)
B.S., M.S., Utah State University, 1934, 1937; Ph.D., Cornell University, 1952.
- *Howard T. Reid** Professor of Personnel and Guidance;
Assistant Dean of Students (1953)
B.A., Brigham Young University, 1940; M.S., Ed.D., University of Southern California,
1947, 1949. (On leave for post-doctoral in-service training.)
- Ernest F. Reimschuessel** Assistant Professor of Horticulture
and Horticultural Specialties (1942)
B.A., M.S., Brigham Young University, 1940, 1951.
- Owen S. Rich** Assistant Professor of Radio Speech (1950)
B.S., Brigham Young University, 1950; M.A., University of Southern California,
1953.
- Russell R. Rich** Professor of Religious Instruction (1953)
B.S., Utah State University, 1936; M.A., Brigham Young University, 1949; Ed.D.,
University of Wyoming, 1955.
- Grant S. Richards** Associate Professor of Animal Husbandry (1945)
B.S., M.S., Utah State University, 1940, 1942.
- R. Neal Richards** Instructor in English (1958)
B.S., M.S., Brigham Young University, 1951, 1955.
- Jed J. Richardson** Assistant Professor of Speech (1955)
B.S., M.S., Utah State University, 1950, 1955.
- Eldin Ricks** Assistant Professor of Religion (1949)
B.S., Brigham Young University, 1941; M.A., University of Southern California,
1949.
- Chauncey C. Riddle** Associate Professor of Philosophy (1952)
B.S., Brigham Young University, 1947; M.A., Columbia University, 1951; Ph.D., Co-
lumbia University, 1958.
- Ted E. Ridenhour** Instructor in English (1959)
B.A., M.A., Brigham Young University, 1957, 1960.
- J. Keith Rigby** Associate Professor of Geology (1953)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., Columbia University, 1952.
- Burton W. Robinson** Associate Professor of Clinical Psychology (1955)
B.S., M.S., Utah State University, 1951; Ph.D., Purdue University, 1954.

- Donald W. Robinson** Associate Professor of Mathematics (1956)
B.S., M.A., University of Utah, 1948, 1952; Ph.D., Case Institute of Technology, 1956.
- Clarence F. Robison** Assistant Professor of Physical and Health Education; Head Track Coach (1948)
B.S., Brigham Young University, 1949; M.S., University of Michigan, 1954.
- R. Max Rogers** Professor of Modern Languages (1945)
B.A., M.A., Brigham Young University, 1940, 1942; Ph.D., Stanford University, 1951.
- Carl W. Rollins** Instructor in Physical Education (1959)
B.S., M.S., University of Wyoming, 1949, 1950.
- Ralph L. Rollins** Associate Professor of Civil Engineering (1956)
B.S., M.S., Utah State University, 1941, 1949; Ph.D., Iowa State College, 1954.
- Antone K. Romney** Professor of Educational Psychology
Dean of Students (1945)
B.S., M.S., Brigham Young University, 1933, 1934; Ed.D., Stanford University, 1947.
- Richard D. Sagers** Assistant Professor of Bacteriology (1958)
B.S., M.S., Brigham Young University, 1954, 1955; Ph.D., University of Illinois, 1958.
- Clyde D. Sandgren** Vice-President and General Counsel;
Professor of Business Law
B.S., Brigham Young University, 1937; LL.B., St. John's University, 1939.
- Lawrence W. Sardoni** Professor of Music (1945)
B.A., M.A., Brigham Young University, 1935, 1946.
- Donald T. Schmidt** Instructor in Library Science (1959)
B.A., M.A., State University of Iowa, 1947, 1949.
- Don D. Shaw** Special Instructor in Health Education (1959)
B.A., Brigham Young University, 1957.
- Merlin J. Shaw** Assistant Professor of Religion (1959)
B.A., M.A., University of Utah, 1938, 1946; Ed.D., University of California at Berkeley, 1960.
- Sherman B. Sheffield** Instructor in History (1957)
B.S., Brigham Young University, 1952; M.S., University of Southern California, 1954.
- Morris A. Shirts** Assistant Professor of Education (1952)
B.A., M.A., Brigham Young University, 1947, 1950; Ed.D., Indiana University, 1952.
- R. Phil Shumway** Associate Professor of Animal Husbandry (1949)
B.S., Utah State University, 1947; M.S., University of Minnesota, 1949; Ph.D., Utah State University, 1959.
- Elbert R. Simmons** Instructor in Zoology and Entomology (1956)
B.S., Utah State University, 1941; M.A., State University of Iowa, 1943.
- John M. Simonsen** Associate Professor of Mechanical Engineering (1954)
B.S.M.E., University of Utah, 1950; M.S.M.E., Ph.D., Purdue University, 1952, 1955.
- Karl M. Skousen** Instructor in Accounting (1958)
B.S., M.S., Brigham Young University, 1944, 1957; C.P.A., Utah, 1957.
- Arthur D. Slater** Assistant Professor of Personnel and Guidance (1956)
B.S., Brigham Young University, 1948; M.S.W., Tulane University, 1950.
- Lyman F. Smart** Assistant Professor of English (1953)
B.A., Idaho State College, 1950; M.A., University of New Mexico, 1952.
- Carol T. Smith** Instructor in Library Science (1949)
B.A., Brigham Young University, 1940.
- Jay M. Smith, Jr.** Assistant Professor of Accounting (1957)
B.S., M.S., Brigham Young University, 1953, 1960; C.P.A., 1953.
- Oliver R. Smith** Professor of Journalism (1938)
B.A., Brigham Young University, 1938; Ph.D., State University of Iowa, 1951.
- Robert J. Smith** Professor of Accounting (1949)
B.S., Brigham Young University, 1948; M.B.A., Northwestern University, 1949; C.P.A., Illinois, 1949; C.P.A., Utah, 1950; D.B.A., Indiana University, 1957.

- Ruth S. Smith** Instructor in Speech (1960)
B.S., University of Utah, 1952; M.A., University of Hawaii, 1955.
- Wilford E. Smith** Professor of Sociology (1948)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Washington, 1952.
- Rulon N. Smithson** Instructor in Modern Languages (1955)
B.A., M.A., Brigham Young University, 1954, 1955.
- L. Douglas Smoot** Assistant Professor of Chemical Engineering (1960)
B.S., Brigham Young University, 1957; M.S., Ph.D., University of Washington, 1958, 1960.
- Richard L. Snow** Assistant Professor of Chemistry (1957)
B.S., Ph.D., University of Utah, 1953, 1957.
- H. Wayne Soffe** Assistant Professor of Physical Education (1938)
B.S., M.S., Brigham Young University, 1938, 1941; D.P.E., Indiana University, 1955.
- Emory O. Sonderegger** Instructor in Accounting (1960)
B.S., M.S., Brigham Young University, 1956, 1957.
- John L. Sorenson** Assistant Professor of Anthropology and Sociology (1958)
B.S., M.A., Brigham Young University, 1951, 1952; M.S., California Institute of Technology, 1952.
- Helen D. Sovine** Instructor in Food and Nutrition (1957)
B.S., Brigham Young University, 1951.
- Irene Osmond Spears** Associate Professor of English (1936)
B.A., Brigham Young University, 1929; M.A., Ph.D., Stanford University, 1934, 1942.
- George Albert Spencer** Instructor in Electrical Technology (1958)
B.S., University of Utah, 1939.
- Sidney B. Sperry** Professor of Old Testament Languages
and Literature (1932)
B.A., University of Utah, 1917; M.A., Ph.D., University of Chicago, 1926, 1931.
- Stephen S. Stanford** Assistant Professor of Housing and
Home Management (1959)
B.S., M.S., Brigham Young University, 1950, 1951; Ph.D., University of Colorado, 1959.
- Homer G. Statham** Instructor in English (1955)
B.A., Mercer University, 1947; M.A., Brigham Young University, 1955.
- Helen T. Stevensen** Instructor in Nursing (1957)
Diploma, Johns Hopkins Hospital, Baltimore, Maryland, 1947; B.S., University of Utah, 1957.
- Grace Nixon Stewart** Instructor in Speech (1960)
B.S., Brigham Young University, 1925; M.A., Columbia University, 1940.
- Dee Leon Storrs** Instructor in Library Science (1957)
B.S., Brigham Young University, 1953; M.S., University of Washington, 1957.
- Ned M. Stringham** Assistant Professor of Recreation (1960)
B.S., M.S., Utah State University, 1952; Director of Recreation, 1957.
- *Robert E. Struthers** Instructor in Speech and Dramatic Arts (1953)
B.S., Utah State University, 1949; M.S., Brigham Young University, 1953. (On leave for further graduate study.)
- Howard S. Stutz** Associate Professor of Botany (1953)
B.S., M.S., Brigham Young University, 1940, 1951; Ph.D., University of California (Berkeley), 1956.
- Albert D. Swensen** Professor of Chemistry (1947)
B.A., M.A., Brigham Young University, 1937, 1938; Ph.D., Louisiana State University, 1941.
- Merlynn Swensen** Instructor in Library Science (1958)
B.A., B.L.S., University of California (Berkeley), 1952, 1953.

- Russel B. Swensen** Professor of History (1933)
B.A., Brigham Young University, 1926; M.A., Ph.D., University of Chicago, 1931, 1934.
- Joseph N. Symons** Professor of Sociology (1953)
B.S., M.S., Utah State University, 1927, 1932; Ph.D., University of Chicago, 1944.
- Orea B. Tanner** Associate Professor of English (1938)
B.A., Brigham Young University, 1932; M.A., Columbia University, 1953.
- Vasco M. Tanner** Professor of Zoology and Entomology (1925)
B.A., Brigham Young University, 1915; M.A., University of Utah, 1920; Ph.D., Stanford University, 1925.
- Wilmer W. Tanner** Associate Professor of Zoology and Entomology (1949)
B.S., M.A., Brigham Young University, 1936, 1937; Ph.D., University of Kansas, 1949.
- Norman Tarbox** Instructor in Speech and Radio and TV Production (1960)
B.S., University of Utah, 1955; M.S., Syracuse University, 1956.
- Charles D. Tate, Jr.** Instructor in English (1960)
B.S., M.S., Utah State University, 1954, 1958.
- Celestia J. Taylor** Instructor in English (1959)
B.A., M.A., Brigham Young University, 1925, 1953.
- Charles Taylor** Associate Professor of Psychology (1954)
B.Mus., A.B., Ph.D., Syracuse University, 1940, 1948, 1954.
- Ethelyn Peterson Taylor** Assistant Professor of Business Education and Office Management (1946)
B.S., Brigham Young University, 1937; M.A., Stanford University, 1949.
- H. Darrel Taylor** Associate Professor of Modern Languages (1948)
B.A., M.A., University of Arizona, 1947, 1948; Ph.D., University of Illinois, 1956.
- Harvey L. Taylor** Vice-President; Professor of Educational Administration (1956)
B.S., University of Utah, 1921; M.A., Columbia University, 1925; LL.D., Arizona State College, 1956.
- Josephine C. Taylor** Instructor in Library Science (1960)
B.A., Brigham Young University, 1959; M.A., University of Southern California, 1960.
- Weldon J. Taylor** Professor of Marketing; Dean, College of Business (1937)
B.S., Brigham Young University, 1934; M.B.A., Harvard Graduate School of Business Administration, 1937; Ph.D., Graduate School of Business Administration, New York University, 1955.
- Elvis B. Terry** Assistant Professor of Music (1957)
B.S., M.S., Brigham Young University, 1933, 1950.
- J. Kenneth Thatcher** Instructor in Educational Administration (1956)
B.S., University of Utah, 1925; M.Ed., University of Idaho, 1936.
- Douglas H. Thayer** Instructor in English (1957)
B.A., Brigham Young University, 1955; M.A., Stanford University, 1959.
- Robert K. Thomas** Assistant Professor of English and Director of Honors Program (1951)
B.A., Reed College, 1947; M.A., University of Oregon, 1949.
- Woodruff C. Thomson** Assistant Professor of English (1950)
B.A., M.A., University of Utah, 1938, 1949.
- Lucile Markham Thorne** Instructor in Library Science (1950)
B.A., M.Ed., Brigham Young University, 1929, 1956; M.S., University of Southern California, 1958.
- Frank M. Tippetts** Instructor in Civil Engineering (1958)
B.A., Brigham Young University, 1953.
- Jack B. Trunnell** Professor of Developmental Biology; Dean of the College of Family Living (1958)
B.A., Brigham Young University, 1942; M.D., University of Utah, 1945.

- Glen C. Tuckett** Assistant Professor of Athletics (1959)
B.S., University of Utah, 1953.
- Glen H. Turner** Associate Professor of Art (1947)
B.S., M.A., Brigham Young University, 1940, 1948; Art Students League, Claremont College.
- Rodney Turner** Assistant Professor of Religion (1956)
B.A., M.A., Brigham Young University, 1949, 1953; Ed.D., University of Southern California, 1960.
- L. Elliott Tuttle** Assistant Professor of Geography (1936)
B.S., M.S., Brigham Young University, 1938, 1948.
- S. Lyman Tyler** Associate Professor of History; Director of Libraries (1952)
B.S., Ph.D., University of Utah, 1949, 1951.
- Clarence Tyndall** Assistant Professor of Education (1946)
B.S., Brigham Young University, 1941; M.A., Stanford University, 1952.
- Otella W. Tyndall** Special Instructor in Human Development and Family Relationships (1959)
B.S., Brigham Young University, 1956.
- Richard D. Ulrich** Associate Professor of Mechanical Engineering (1960)
B.S., M.S., Ph.D., Purdue University, 1954, 1955, 1959.
- Quentin E. Utley** Assistant Professor of Education (1957)
B.S., Brigham Young University, 1940; Ph.D., University of Utah, 1960.
- Lee B. Valentine** Associate Professor of Modern Languages (1939)
B.A., M.A., Brigham Young University, 1939, 1948; Ph.D., Stanford University, 1958.
- John W. Van Cott** Instructor in Botany (1959)
B.A., Utah State University, 1941.
- Howard B. Van Fleet** Assistant Professor of Physics (1960)
B.S., Brigham Young University, 1955.
- Barbara Vance** Instructor in Human Development and Family Relationships (1959)
B.A., University of Utah, 1956; M.A., Brigham Young University, 1959.
- Glenn M. Vernon** Associate Professor of Sociology (1959)
B.S., M.S., Brigham Young University, 1947, 1950; Ph.D., Washington State University, 1953.
- Leo P. Vernon** Professor of Chemistry (1954)
B.A., Brigham Young University, 1948; Ph.D., Iowa State College, 1951.
- J. Homer Wakefield** Assistant Professor of Music (1949)
B.S., M.S., M.A., Brigham Young University, 1924, 1933, 1950.
- Mary Lynn Wakefield** Special Instructor in Homemaking Education (1960)
B.S., Brigham Young University, 1957.
- Rudger H. Walker** Professor of Agronomy; Dean of the College of Biological and Agricultural Sciences (1960)
B.S., Brigham Young University, 1923; M.S., Ph.D., Iowa State University, 1925, 1927.
- Lulu Wallace** Instructor in Physical Education (1956)
B.S., Utah State University, 1954.
- Mont M. Warner** Instructor in Geology (1958)
B.A., M.A., Brigham Young University, 1947, 1949.
- Max LeRoy Waters** Instructor in Business Education and Office Management (1958)
B.A., M.A., Brigham Young University, 1958, 1960.
- Jean Anne Waterstradt** Assistant Professor of English (1945)
B.A., Brigham Young University, 1945; M.A., University of Southern California, 1955.
- Arthur R. Watkins** Professor of Modern Languages (1952)
B.A., M.A., Brigham Young University, 1941, 1942; Ph.D., Stanford University, 1948.

- Ray Watters** Associate Professor of Health and Physical Education (1957)
B.S., M.S., Utah State University, 1948, 1950; H.S.D., University of Indiana, 1960.
- Stanley H. Watts** Associate Professor of Physical Education;
Head Basketball Coach (1947)
B.S., Brigham Young University, 1938.
- Ross M. Weaver** Assistant Professor of Speech and Dramatic Arts (1959)
B.S., M.S., Utah State University, 1950, 1951.
- Newell B. Weight** Assistant Professor of Music (1950)
B.A., M.A., Brigham Young University, 1938, 1946.
- Kurt Weininger** Instructor in Music (1956)
Music Diplomas, Academy of Music and Arts, Vienna, Austria, 1951, 1953.
- Stanley L. Welsh** Assistant Professor of Botany (1960)
B.S., M.S., Brigham Young University, 1951, 1957; Ph.D., Iowa State University, 1960.
- Dale H. West** Assistant Professor of English (1947)
B.A., Brigham Young University, 1940; M.A., University of Southern California, 1955.
- Harold F. Western** Instructor in Accounting (1958)
B.S., M.S., Brigham Young University, 1954, 1960; C.P.A., Utah, 1959.
- David White** Instructor in Mathematics and Psychology (1960)
B.A., M.A., Brigham Young University, 1951, 1957.
- J. Morgan White** Assistant Professor of Accounting (1953)
B.S., M.S., Brigham Young University, 1951, 1958; C.P.A., Utah, 1953.
- Harry E. Wickes** Instructor in Mathematics (1957)
B.S., M.Ed., Brigham Young University, 1950, 1954.
- Ray T. Wilcox** Assistant Professor of Education (1957)
B.S., M.Ed., Brigham Young University, 1951, 1954; Ed.D., University of California (Berkeley), 1957.
- Doran F. Wilkes** Instructor in Civil Engineering (1958)
B.S., M.S., Utah State University, 1951, 1955.
- Ernest J. Wilkins** Associate Professor of Modern Languages (1953)
B.A., Brigham Young University, 1947; M.A., Ph.D., Stanford University, 1949, 1954.
- Ernest L. Wilkinson** President of the University
B.A., Brigham Young University, 1921; LL.B., George Washington University, 1926;
S.J.D., Harvard University, 1927; LL.D., Brigham Young University, 1957.
- J. Kenneth Williams** Coordinator of the Teacher Certification Office;
Instructor in Education (1956)
B.S., Brigham Young University, 1948.
- Tess M. Williams** Assistant Professor of Speech (1960)
B.S., Oregon State College, 1951; M.S., Iowa State College, 1956.
- Daniel E. Willmore** Instructor in Political Science (1960)
B.A., Idaho State College, 1953; M.A., The American University, 1959.
- Annette Wilson** Instructor in Nursing (1956)
Diploma, Thomas D. Dee Memorial Hospital, Ogden, Utah, 1951; B.S., University of Utah, 1954.
- Arnold Wilson** Instructor in Civil Engineering (1957)
B.S., Brigham Young University, 1957.
- M. Lyman Wilson, Jr.** Assistant Professor of Industrial Management (1956)
B.A., Brigham Young University, 1954; M.B.A., Stanford University, 1956.
- Marguerite L. Wilson** Instructor in Educational Psychology (1956)
B.S., University of Utah, 1948; M.A., San Francisco State College, 1955.
- Warren B. Wilson** Associate Professor of Art and Education (1954)
B.S., Utah State University, 1943; M.F.A., State University of Iowa, 1949.

- William A. Wilson** Instructor in English (1960)
B.A., M.A., Brigham Young University, 1958, 1960.
- John H. Wing** Assistant Professor of Chemistry (1931)
B.S., M.S., Brigham Young University, 1926, 1934.
- Alan R. Witbeck** Instructor in Physical Education (1955)
B.S., M.S., Brigham Young University, 1952, 1954.
- Glena D. Wood** Assistant Professor of English (1952)
B.A., Brigham Young University, 1936; M.A., Ph.D., University of Kentucky, 1949, 1958.
- Stephen L. Wood** Assistant Professor of Zoology and Entomology (1956)
B.S., M.S., Utah State University, 1946, 1948; Ph.D., University of Kansas, 1953.
- Lael J. Woodbury** Associate Professor of Speech (1954)
B.S., Utah State University, 1952; M.A., Brigham Young University, 1953; Ph.D., University of Illinois, 1954.
- Richard C. Woodbury** Assistant Professor of Electrical Engineering (1959)
B.S., University of Utah, 1956; M.S., Stanford University, 1958.
- Leon W. Woodfield** Instructor in Accounting (1960)
B.S., M.B.A., University of Utah, 1956, 1957.
- Ralph Woodward** Assistant Professor of Music (1955)
B.S., University of Idaho, 1940; M.M., Cincinnati Conservatory of Music, 1948.
- Golden L. Woolf** Professor of Educational Administration (1934)
B.A., M.A., Brigham Young University, 1934, 1936; Ed.D., University of California, 1940.
- H. Curtis Wright** Instructor in Library Science (1959)
B.A., M.A., Brigham Young University, 1954, 1955; M.S., University of Southern California, 1959.
- David H. Yarn, Jr.** Professor of Theology and Philosophy;
Dean of the College of Religious Instruction (1950)
B.A., Brigham Young University, 1946; M.A., Columbia University, 1949; Ed.D., Columbia University, 1958.
- Karl E. Young** Professor of English (1930)
B.A., M.A., Oxford University (England), 1930, 1934.

(Names of faculty members on leave are marked with asterisks (*) in the departmental faculty listings.)

SPECIAL INSTRUCTORS OR LECTURERS

General Authorities of the Church of Jesus Christ of Latter-day Saints
Florence Beck, B.A., Consultant Instructor in Family Living
Archibald F. Bennett, M.A., Special Instructor in Religion
Jacob Bos, Special Instructor in Music
Rulon Brough, Special Instructor in Machine Accounting
Adine Bradley, Special Instructor in Music
Merrill Bushnell, M.B.A., Special Instructor in Industrial Management
Richard A. Call, M.D., Special Instructor in Bacteriology
J. H. Carlquist, M.D., Special Instructor in Bacteriology
Lathair H. Curtis, B.A., Special Instructor in Journalism
George W. Fitzroy, Special Instructor in Piano
David Freed, B.S., Special Instructor in Music
Carl Fuerstner, Special Instructor in Piano
Barclay Gardner, M.S., Special Instructor in Economics
Paul Harmon, M.S., Special Instructor in Marketing

Ronda H. Jenkins, B.S., Special Instructor in Journalism
 Lucille N. Jensen, B.S., Special Instructor in Human Development and Family Relationships
 Phil D. Jensen, B.S., C.L.U., Special Instructor in Insurance
 Francis W. Kirkham, B.A., LL.B., Ph.D., Special Instructor in Religion
 Lee Knell, B.S., B. Arch., Special Instructor in Art
 W. H. Le Cheminant, M.D., Special Instructor in Bacteriology
 Theron C. Liddle, Lecturer in Journalism
 Arminta Mathews, B.S., Special Instructor in Music
 Elmer E. Nelson, Special Instructor in Piano
 Joseph E. Nelson, B.S., LL.B., Special Instructor in Business Law
 Richard Nibley, B.S., Special Instructor in Music
 Kenneth Pace, B.S., Special Instructor in Marketing
 Ford Paulson, Special Instructor in Agricultural Economics
 O. Preston Robinson, B.A., M.S., D.C.S., Lecturer in Journalism
 William B. Smart, B.A., Lecturer in Journalism
 Lynn Taylor, B.A., Special Instructor in Art and Housing and Home Management
 Richard M. Taylor, B.S., LL.B., Special Instructor in Business Law
 Irene Thomson, B.S., Special Instructor in Food and Nutrition
 Helen W. Wakefield, B.S., Consultant Instructor in Family Living
 Kay Williams, M.B.A., Special Instructor in Economics
 Margaret Woodward, B.A., Special Instructor in Music

EXTENSION SERVICES—SPECIAL INSTRUCTORS

Merle E. Allen, B.S., M.Ed., Ed.D., Special Instructor in Educational Research and Services
 Robert Clay Allred, B.S., Special Instructor in Family Living
 Wilson K. Andersen, B.S., M.Ed., Special Instructor in Religion
 H. Duane Anderson, Special Instructor in English
 John B. Anderson, B.S., LL.B., Special Instructor in Speech
 Leola Anderson, Special Instructor in English
 Mark E. Anderson, B.A., Special Instructor in Business
 Theron H. Atkinson, B.A., M.A., Special Instructor in Library Science
 Dorothy C. Bacon, B.A., Special Instructor in Family Living
 Leo H. Barlow, LL.B., Special Instructor in Business
 Richard W. Barnes, B.S., M.S., Special Instructor in Religion
 B. Harrison Barrus, B.S., M.Ed., Special Instructor in Religion
 Ruth H. Barrus, B.S., Special Instructor in English
 Florence Barton, Special Instructor in English
 John E. Bean, B.S., M.Ed., Ed.D., Special Instructor in Education
 Archibald F. Bennett, M.A., Special Instructor in Religion
 Hugh C. Bennion, B.S., M.S., Ed.D., Special Instructor in Educational Research and Services
 Lyman C. Berrett, B.S., M.S., Special Instructor in Instruction
 Ruth H. Biddulph, B.A., M.S., Special Instructor in English, Instruction
 LeRoy Bishop, B.S., M.S., Ph.D., Special Instructor in Religion, Psychology
 Leslie J. Boothe, B.S., M.S., Special Instructor in Religion
 Clifton Boyack, B.A., M.A., Ed.D., Special Instructor in Education
 Richard Boyle, B.S., Special Instructor in Business
 Lee R. Cain, B.S., M.S., Special Instructor in Instruction
 W. Henry Chace, Special Instructor in Genealogy

Henry E. Christiansen, Special Instructor in Genealogy
 Pearson H. Corbett, B.S., M.S., Special Instructor in Religion, Instruction
 Elden R. Cox, Special Instructor in Business
 Winston D. Crawford, Special Instructor in Family Living
 LeRoy R. Critchfield, B.S., M.B.A., Special Instructor in Business
 William Critchlow, Special Instructor in Business
 Merlin Croft, Special Instructor in Business
 Ralph F. Dabb, B.A., Special Instructor in English
 Ray Dabb, Special Instructor in Botany
 Rollin Davis, B.A., M.S.W., Special Instructor in Sociology
 Dello G. Dayton, B.S., M.A., Ph.D., Special Instructor in History
 Paul H. Dunn, B.S., M.S., Ed.D., Special Instructor in Instruction
 Reed C. Durham, B.S., M.S., Special Instructor in Religion
 Jefferson Eastmond, B.S., M.S., Ed.D., Special Instructor in Educational Administration
 Orrin J. Erickson, Special Instructor in Ham Radio
 Dean E. Fairchild, B.S., M.A., Special Instructor in Sociology
 Kay V. Fellows, B.S., M.S., Special Instructor in Religion
 Merle R. Fisher, Special Instructor in Physics
 LeGrande Fletcher, B.S., M.S., Special Instructor in Art
 Grant Fredrickson, B.A., Special Instructor in Horticulture
 George H. Fudge, Special Instructor in Genealogy
 Rulon R. Garfield, B.S., M.A., Special Instructor in Political Science
 David E. Gardner, Special Instructor in Genealogy
 Ray Gleave, B.A., M.A., Special Instructor in Religion
 James A. Glenn, B.S., M.Ed., Special Instructor in Sociology
 Kenneth W. Godfrey, B.S., M.S., Special Instructor in Religion
 Lowell A. Gould, Special Instructor in Industrial Education
 LeRoy R. Hafen, B.A., M.A., Ph.D., Special Instructor in History
 Robert Haldin, B.S., M.S., Ph.D., Special Instructor in Mathematics
 Orval H. Hansen, B.A., Special Instructor in Political Science
 Glen F. Harding, M.D., Special Instructor in Zoology
 C. Derek Harland, B.S., Special Instructor in Genealogy
 William Harless, B.S., M.A., Ph.D., Special Instructor in Instruction
 Mabel S. Harmer, B.S., Special Instructor in English
 William Hartman, B.A., M.A., Ph.D., Special Instructor in Sociology
 Leon Hartshorn, Special Instructor in Religion
 H. Bartley Heiner, B.S., M.S., Special Instructor in Religion
 Daniel S. Hess, B.S., M.S., Special Instructor in Educational Administration
 Chester W. Hill, B.S., Ed.D., Special Instructor in Music
 Eugene Hilton, B.A., M.S., Ed.D., Special Instructor in Educational Administration
 D. Crawford Houston, B.S., M.B.A., Special Instructor in Business
 E. Virgil Howell, B.A., M.A., Ph.D., Special Instructor in Religion
 Carl H. Jacob, B.A., M.A., Special Instructor in Religion, Journalism
 Jack Edward Jarvie, Special Instructor in Art
 LaVerd John, B.S., M.S., Ed.D., Special Instructor in Educational Research and Services
 C. Cameron Johns, Special Instructor in English
 Charles Johnson, B.A., Special Instructor in Business
 Evan Jones, Special Instructor in Religion
 Milton J. Jones, Special Instructor in Art
 Stanley D. Jones, Special Instructor in Industrial Education

Vincent L. Jones, Special Instructor in Genealogy
William M. Jones, B.A., M.A., Special Instructor in Religion
Odell Julander, B.S., M.S., Ph.D., Special Instructor in Botany
George S. Kanahela, B.A., M.A., Special Instructor in Political Science
Luanne Kent, B.S., Special Instructor in Family Living
James L. Kerr, B.A., M.A., Special Instructor in English
Thomas D. Kershaw, Special Instructor in Instruction
James L. Kirschbaum, B.S., M.S., Special Instructor in Business
Hubert C. Lambert, B.S., M.S., Special Instructor in Geology
Ruth Lamberty, Special Instructor in Physical Education
Helen Lamprecht, Special Instructor in Family Living
John Lanward, Special Instructor in Psychology
Edward C. Larsen, B.S., M.S., Special Instructor in Sociology
Jean Larsen, Special Instructor in Family Living
Genevieve Lawrence, B.S., Special Instructor in Family Living
Roy R. Lee, B.S., M.S., Special Instructor in Physics
Lois Lewis, Ed.B., M.S., Special Instructor in Family Living
Sherald D. Lewis, B.S., Special Instructor in French
David Lofgren, B.S., Special Instructor in Horticulture
William F. Lye, B.S., M.A., Special Instructor in Humanities, Religion
T. Edgar Lyon, B.S., M.A., Special Instructor in Religion
Ellis McAllister, B.S., M.S., Ed.D., Special Instructor in Educational Administration
Don Wallace McBride, B.A., Special Instructor in Education
Ralph L. McBride, Special Instructor in Physics, English
Ralph S. McCarrey, B.S., M.S., Special Instructor in Family Living, Sociology
Shirley L. McGrath, Special Instructor in Family Living
Milton C. Madsen, Special Instructor in Psychology
Raymond R. Martin, Special Instructor in English
Ruth Martino, B.A., Special Instructor in English
Thomas W. Matthews, B.S., Special Instructor in English
Donald P. Merrill, Special Instructor in Mathematics
Leland H. Monson, B.S., M.S., Ph.D., Special Instructor in English
James Mortimer, B.S., M.S., Special Instructor in Journalism
Horace David Nelson, B.S., M.S., Special Instructor in Instruction
Alfred C. Nielsen, B.S., M.S., Special Instructor in Religion
Harold K. Nielsen, Special Instructor in Mathematics
Pearl Ohlin, Special Instructor in Family Living
J. Duffy Palmer, B.S., LL.B., Special Instructor in Law
Elmina C. Papworth, B.S., M.S., Special Instructor in Instruction
Oliver H. Parson, B.S., M.A., Special Instructor in Art
Mary Helen Parsons, B.S., Special Instructor in Family Living
George E. Patterson, B.S., M.S., Special Instructor in Religion
Albert L. Payne, B.S., M.S., Special Instructor in Religion
H. Donl Peterson, B.S., Special Instructor in Religion
H. Lester Peterson, B.S., M.S., Special Instructor in Religion, Instruction
Hugh W. Peterson, B.A., M.A., Ph.D., Special Instructor in Chemistry
Albert A. Pieper, Special Instructor in German
Robert S. Potter, B.A., Special Instructor in Religion
Beverly Powell, Special Instructor in Sociology
Elizabeth Price, B.S., M.S., Special Instructor in Humanities
Sterling R. Provost, B.S., M.S., Special Instructor in English, Speech

Thomas Laine Raty, B.S., Special Instructor in Art
 Clyde Ricks, B.A., M.A., Special Instructor in Religion
 Norman E. Ricks, B.S., M.S., Special Instructor in Humanities
 Howard E. Salisbury, B.A., Special Instructor in English
 J. Wendell Sanders, Special Instructor in Botany
 Howard C. Searle, Special Instructor in Religion, Instruction, History
 Norman L. Skanchy, B.S., Special Instructor in Art, Instruction
 Frank Smith, Special Instructor in Genealogy
 Ferron W. Sonderegger, B.S., Special Instructor in Physical Education
 Eldred C. Stephensen, B.S., M.S., Special Instructor in Business
 Elizabeth B. Stewart, Special Instructor in Psychology
 Grace Nixon Stewart, B.S., M.A., Special Instructor in Speech
 Joics B. Stone, B.A., M.S., Ph.D., Special Instructor in Sociology
 Ezra S. Stucki, B.S., M.S., Special Instructor in Instruction
 J. Wendell Stucki, B.S., M.S., Special Instructor in Botany
 George F. Swenson, B.S., M.S., Ph.D., Special Instructor in Speech
 Virginia M. Swenson, B.S., Special Instructor in Speech
 Rowan Taylor, B.A., M.A., Special Instructor in Music
 Gordon Thatcher, B.S., Special Instructor in Business
 William O. Tolman, Special Instructor in Genealogy
 John Tucker, Special Instructor in Instruction
 Reed L. Tyler, B.A., Special Instructor in Art
 Curtis N. Van Alfen, B.S., Special Instructor in Educational Research and Services
 Marion V. Wallgren, B.S., Special Instructor in Speech, Family Living
 Wilson C. Walker, M.S., Special Instructor in Educational Research and Services,
 Psychology
 Vesta Ann Ward, B.S., Special Instructor in Art
 Lyle Watson, B.S., Special Instructor in English
 Ellsworth E. Weaver, B.S., M.S., Ph.D., Special Instructor in Political Science
 Victor J. Wheeler, Special Instructor in Genealogy
 Ray Wight, B.A., M.A., Special Instructor in Journalism
 Arthur C. Wiscombe, Special Instructor in Instruction
 George R. Woolley, Special Instructor in Religion
 Jean Wunderlich, B.A., M.A., Special Instructor in Religion, Humanities
 Orson Whitney Young, B.A., M.A., Ph.D., Special Instructor in Zoology

THE STAFF OF THE LABORATORY SCHOOLS

Edwin A. Read Director of Laboratory Schools (1959)
 Max J. Berryessa Assistant Director of the Laboratory Schools for
 Operation (1948)
 John K. Crnkovic Assistant Director of the Laboratory Schools for
 Curriculum and Teaching (1957)

The Elementary School

Erma Bennett Primary Grades and Elementary Methods (1956)
 B.S., Brigham Young University, 1936.
 Catherine Bowles Intermediate Grades and Elementary Methods (1960)
 B.S., M.S., Brigham Young University, 1940, 1953.
 D. June Carlisle Primary Grades and Elementary Methods (1956)
 B.S., Brigham Young University, 1958.

- Donald E. Clark** Intermediate Grades and Elementary Methods (1960)
B.S., Humboldt State College, 1955; M.S., Brigham Young University, 1959.
- Hazel Cook Clark** Primary Grades and Elementary Methods (1952)
B.S., University of Utah, 1938; M.S., Brigham Young University, 1957.
- Welsford H. Clark** Intermediate Grades and Elementary Methods (1956)
B.S., Brigham Young University, 1956.
- Bertha Davidson** Intermediate Grades and Elementary Methods (1950)
B.S., M.Ed., Brigham Young University, 1950, 1954.
- Glen S. Gagon** Intermediate Grades and Elementary Methods (1955)
B.S., M.Ed., Brigham Young University, 1951, 1956.
- Frank G. Miles** Intermediate Grades and Elementary Methods (1958)
B.A., Brigham Young University, 1954.
- Elva Killian Miller** Primary Grades and Elementary Methods (1955)
B.S., Brigham Young University, 1947.
- Marvin Nelson** Intermediate Grades and Elementary Methods (1959)
B.S., Brigham Young University, 1951.
- Louise Olsen** Primary Grades and Elementary Methods (1960)
B.S. University of Utah, 1955.
- Mima Rasband** Primary Grades and Elementary Methods (1952)
B.S., M.S., Brigham Young University, 1937, 1950.
- Carma L. Sandberg** Librarian (1957)
B.A., Brigham Young University, 1932.

The Secondary School

- Verl Allman** Biological Sciences (1950)
B.S., M.S., Brigham Young University, 1948, 1952.
- Garth Allred** English (1959)
B.A., M.A., Brigham Young University, 1950, 1958.
- Wallace E. Allred** Mathematics (1956)
B.S., M.Ed., Brigham Young University, 1956, 1957.
- Alan R. Anderson** Religion (1959)
B.S., B.Ed., University of Alberta, 1952, 1953.
- Frank H. Arnold** Physical Education and Mathematics (1958)
B.S., Idaho State College, 1956.
- Grant D. Bendixsen** Mathematics, Core-Curriculum (1954)
B.S., M.S., Brigham Young University, 1949, 1953.
- J. Lynn Benson** Speech (1960)
B.S., Brigham Young University, 1951.
- June E. Berry** Librarian (1948)
B.S., Brigham Young University, 1947; M.S., University of Utah, 1952
- Melvin R. Brooks** Religion (1955)
B.A., M.A., University of Utah, 1944, 1955.
- Faye J. Buttle** Speech, Core-Curriculum (1951)
B.A., M.Ed., M.A., Brigham Young University, 1927, 1953, 1954.
- Julia A. Caine** History, Social Studies (1941)
B.S., Brigham Young University, 1925; M.A., Colorado State College of Education, 1950.
- Adelaide Fuhrman** English (1960)
B.S., Utah State University, 1956.
- Omar Hansen** Mathematics and Physical Sciences (1957)
B.S., Brigham Young University, 1947.

- Anna B. Hart** English (1939)
B.S., Utah State University, 1922; M.A., University of Southern California, 1933;
M.Ed., George Peabody College for Teachers, 1949.
- LeOra Hatton** Home Economics (1960)
B.S., Utah State University, 1958; M.S., Brigham Young University, 1959.
- Ray W. Hellberg** Art and Publications (1957)
B.A., M.S., Brigham Young University, 1955, 1957.
- Ross C. Hilton** Industrial Arts (1957)
B.S., Utah State University, 1951.
- Don L. McConkie** Social Studies (1953)
B.S., M.S., Brigham Young University, 1927, 1942.
- Ward Magleby** Religion (1957)
B.S., M.S., Utah State University, 1939, 1946.
- James Mason** Instrumental Music (1957)
B.A., M.A., Brigham Young University, 1955, 1957.
- Allen E. Nelson** Physical Education and Athletics (1960)
B.S., Brigham Young University, 1958.
- LeRoy E. Porter** Counselor (1957)
B.S., Brigham Young University, 1954.
- Sharon S. Stoddard** Commercial Subjects (1960)
B.S., Brigham Young University, 1958.
- Hal L. Taylor** Religion (1960)
B.S., Brigham Young University, 1951.
- Lowell D. Thomson** Mathematics and Physical Science (1958)
B.A., Humboldt State College, 1952; M.S., University of Utah, 1958.
- Donna Lee Turley** Counselor (1959)
B.S., Brigham Young University, 1953.
- Fredrick N. Webb** Vocal Music (1948)
B.A., M.A., Brigham Young University, 1933, 1954.
- June G. Whiteford** English (1955)
B.A., Michigan State Normal College, 1942; Certificate in Library Science, Gonzaga
University, 1947.
- Marietta B. Williams** Physical Education and Health (1960)
B.S., Brigham Young University, 1959.

Objectives

... seek ye out of the best books words of wisdom:
seek learning even by study, and also by faith.

—Doctrine and Covenants, Sec. 88, v. 118

David O. McKay, President of the Church of Jesus Christ of Latter-day Saints, has stated these as the objectives of a student at Brigham Young University. As a student one should:

1. Become aware of one's own ignorance and gain humility in contemplating how infinite God's creations are.
2. Increase one's knowledge, selecting those facts and truths which will be most valuable and realizing that exact and definite knowledge is always of the greatest possible value and importance to every individual who has the moral courage to use it rightly.
3. Learn that acquisition of knowledge will result only from personal effort, not from superficial study or shirking.
4. Realize the responsibility one has, because of free agency, of individual choice. The opportunity for rising above the plane of animal existence is open to all who will choose it.
5. Come to a knowledge that the purpose of life is not mere existence or pleasure or fame or wealth, but the perfection of humanity through individual achievement under the guidance of God's inspiration.

It has been the aim of the University to encourage students to realize these objectives, objectives closely allied to, and derived from, the basic philosophy of Mormonism: man, the son of God, is a free agent with unlimited possibilities for eternal development under God's guidance; a never-ending search for truth and for an understanding of the truth should be among the activities of those who aspire to perfection.

Objectives Formulated by the Faculty

The objectives which Brigham Young University has set for itself derive from the Latter-day Saints' concept of the nature of man, which places man as the offspring of God and as a free agent with unlimited possibilities for eternal development under leadership of his Heavenly Father. The noblest goals in eternal life may be achieved only when men work together, keeping the doors of opportunity open for everyone, and when they act under a sense of obligation to share with their fellowmen the most inspiring vision of life's possibilities. Therefore, man must use all possible means of coming into possession of truth. As a result of this Latter-day Saint ideal the curriculum of Brigham Young University includes the revealed word of God, the humanities, the arts, the natural sciences, and the social sciences. Man's glory is his intelligence, by which he may discover and apply truth and ultimately master the universe.

The objectives of Brigham Young University, prepared by the faculty and approved by the Board of Trustees in 1959, are as follows:

Education at Brigham Young University is directed toward the development of the whole person, whose life is balanced by many interests and activities, integrated by a knowledge of divine revealed truth, and dedicated to the service of mankind. The University strives to provide an environment conducive to such growth and sets forth the following as its major objectives:

1. To provide an atmosphere congenial to the development of true Christian ideals in which students may develop faith in God, obtain an understanding of the principles of the Restored Gospel, and a desire and resolution to make its standards the guiding light of their lives in service to the Church and their fellowmen.
2. To help students obtain an understanding of the world around us—its natural and physical phenomena, its peoples and their problems, and its heritage of wisdom.
3. To promote scholarly research among faculty and students in order to advance the frontiers of knowledge.
4. To assist students in learning to think clearly and critically and to communicate effectively.
5. To foster an appreciation of literature and the arts and to stimulate participation in creative or expressive activity.
6. To assist students in preparing for professional or occupational responsibilities suitable to their interests, aptitudes, and capacities.
7. To provide continuing educational training and services to off-campus individuals and groups.
8. To encourage social understanding and personal development in preparation for the responsibilities of family life, Church service, community leadership, and basic citizenship.

Brigham Young University

Past and Present

History of the University

Founding and Philosophy. Brigham Young University was established pursuant to a deed of trust executed by Brigham Young, President of the Church of Jesus Christ of Latter-day Saints, on October 16, 1875. That deed expressly set forth that the "pupils shall be instructed in . . . such branches as are usually taught in an academy of learning," and also "in the Old and New Testaments, the Book of Mormon and the Book of Doctrine and Covenants."

A group of seven persons appointed by President Young comprised the first Board of Trustees. They were Abraham O. Smoot, President of Utah Stake of the Church, which embraced all of Utah County, William Bringhurst of Springville, Leonard E. Harrington of American Fork, and Wilson H. Dusenberry, Martha J. Coray, Myron Tanner and Harvey H. Cluff of Provo, all prominent members of Utah Stake.

At a meeting November 22, 1875, the Board of Trustees organized the Academy. At that time the Timpanogos Branch of the University of Deseret had just been discontinued, and it was too late in the year to arrange a complete school year. Consequently the board decided to hold two preliminary terms of Brigham Young Academy. Warren N. Dusenberry, who had been principal of the Timpanogos Branch, was selected to become principal of the Academy. After conducting the first preliminary term, which ended April 15, 1876, he resigned to practice law.

Ten days later, President Brigham Young, acting for the Board of Trustees, requested Dr. Karl G. Maeser, a convert to the Church from Germany, to come to his office. "Brother Maeser," said the President, "I have another mission for you. We have been considering the establishment of a Church school, and are looking around for a man—a man to take charge of it. You are the man, Brother Maeser. We want you to go to Provo to organize and conduct an academy to be established in the name of the Church—a Church school."

A few days later, Dr. Maeser called at the office of President Young and said, "President Young, I am ready to go to Provo. What are my instructions?"

"Only this," replied the President. "I want you to remember that you ought not to teach even the alphabet or the multiplication tables without the spirit of God. That is all. God bless you. Goodbye."

Dr. Maeser accepted this all-embracing charge, believing that the ultimate good in education could be summed up in the words of the Master: "Be ye perfect, even as your Father in Heaven is perfect." In one of his memorable sermons, Dr. Maeser stated the real purpose of the school by saying, "Not by bread alone, neither for bread alone does man live. There are higher objectives yet to be attained, other truths to be learned, and greater work to be done." Years later, consistent with that philosophy, the school adopted as its motto this revelation of the Lord: "The Glory of God is Intelligence."*

*Doctrine and Covenants, 93:36.

Administration of Karl G. Maeser. Karl G. Maeser served as principal of the Academy from April 24, 1876, to January 4, 1892, a period of 16 years.

He had received intensive training in the excellent German schools of his time. He was a graduate of the Dresden Gymnasium and of the normal schools of Friedrichstadt, Germany. At the time of his conversion to the Church, he was Vice-Director of the Budich Educational Institute at Dresden.

Neither Warren N. Dusenberry nor Karl G. Maeser had much academic assistance at the beginning of school. When Dr. Maeser began his teaching at Brigham Young Academy, he was principal and the sole teacher of the twenty-nine students, most of them from Utah County.

The old Lewis Building, which stood on the corner of Third West and Center Streets, was the first home of Brigham Young Academy. This building was later described by Justice George Sutherland of the United States Supreme Court, one of the Academy's first students, as being a "structure without beauty or grace or any other aesthetic feature calculated to invite a second look . . . It consisted of one large room and a stage—both so utterly bare and gloomy as to make inappropriate any form of entertainment except tragedy."

By 1882 this building was found to be inadequate for the needs of the school, and additional rooms were built from funds provided by A. O. Smoot, Harvey H. Cluff, Myron Tanner, and W. H. Dusenberry. However, this structure was entirely destroyed by fire January 27, 1884. Temporary quarters were obtained, and the school continued with the loss of only one day of school. During the summer of 1884 arrangements were made with Z.C.M.I. for the use of the upper floor and part of the lower floor of its warehouse on University Avenue.

Members of the Board of Trustees were appointed by Brigham Young until his death in 1877, when this responsibility fell upon his heirs.

The transition of Brigham Young Academy into the University of the Church has been marked by periods of great financial distress. Brigham Young died before he had provided for the endowment of the institution. This left the school without any assured source of income.

In the early days of the school, when no funds for the budget could be found, the board actually considered closing the Academy. It was then that Professor Maeser and his faculty showed their loyalty by teaching for anything they could get, including agricultural products, which were accepted from students in lieu of cash tuition.

President A. O. Smoot of Utah Stake was equally loyal. In the winter of 1887, to bolster up a shrinking enrollment, he asked each member in attendance at a stake priesthood meeting to pay the tuition of at least one student at the Academy. On leaving before the close of the meeting, he told the priesthood assembled that they might name the sum he should pay and he would abide by the decision. Members of the Academy faculty readily responded to the call. One faculty member, who was teaching his first year at a salary of twenty dollars per month, paid a quarter's tuition for one student.

On June 8, 1888, President Wilford Woodruff organized a General Board of Education of the Church, consisting of nine members. This board directed the activities of the school, but the power of appointment of the Board of Trustees still remained with the heirs of Brigham Young until July 18, 1896, when, by the adoption of the Articles of Incorporation for the University, the right of appointment was granted to the First Presidency of the Church through the consent of the heirs of Brigham Young. By this action, the Church assumed the indebtedness of the institution and accepted the responsibility of maintaining Brigham Young University.

On January 4, 1892, the school was moved to what is now known as the Education Building, the first structure built especially for the University. Much of the \$75,000 it cost was made available through the personal credit of President A. O. Smoot, a member of the Board of Trustees at that time.

Dr. Maeser's administration will be remembered primarily because of his masterful teaching. His legacy to the Church school system consisted of three ideals: (1) the acquirement of intelligence by academic studies; (2) the development of character; and (3) a reverence for the revealed word of God, together with a living testimony of the divinity of the message of the Church which he represented. He often stated that "no infidel" would go out from his school, and it is doubtful whether any did. His sermons were classics which lived with his students throughout their lives. He was the great spiritual architect of the school.

Administration of Benjamin Cluff. Benjamin Cluff, a former student of Karl G. Maeser, served as president from January 4, 1892, to December 23, 1903. He was one of the first native Utahns to earn a college degree, having received it from the University of Michigan in 1890. He influenced many young men and women to go to larger universities in pursuit of higher learning. Some of them later became teachers at Brigham Young University.

His administration was effective in changing the school from one which was still largely a normal school, with a very small college department, to a university.

After 1892 President Cluff asked the Church authorities to provide another building to house the growing student body properly. As the Church was not prepared to furnish the money, Reed Smoot, chairman of the Executive Committee of the Board, took the initiative and secured a contribution of one thousand dollars each from Wilford Woodruff, George Quayle Cannon, Joseph Fielding Smith, Reed Smoot, Jesse Knight, Charles Edwin Loose, Alfred William McCune, Amanda Inez Knight, Stephen L. Chipman, and Jesse William Knight. The cost of the building exceeded ten thousand dollars, but Reed Smoot subscribed the additional amount to cover the expense. It was named College Building. Dedication was held in connection with commencement week in 1898.

The financial panic of 1893 further intensified the school's financial difficulties. Some of the real estate sold to clear part of the indebtedness had to be repossessed by the school, and \$30,000 was supplied by the Church to be applied on its debts. President A. O. Smoot underwrote large notes for the school to keep it operating. On his death, the trustee-in-trust of the Church, in the interest of the heirs of the estate, agreed to underwrite all notes of the Academy bearing President Smoot's endorsement.

President Cluff was instrumental in founding an alumni association in June of 1893. He gave encouragement to student organization and activity. Early in his administration two school papers were begun; athletic sports such as football, basketball, and track were encouraged; and the school colors, blue and white, were chosen. He established the first summer school and added new departments and laboratories.

In 1894 the title of the head of Brigham Young Academy was changed from "Principal" to "President," and in 1903 the school became Brigham Young University.

In 1900 President Cluff sponsored a South American expedition to engage in archaeological study of Book of Mormon sites. While he was in South America, Acting President George H. Brimhall asked the authorities for a Church normal training school building with a gymnasium on the upper floor. Jesse Knight, a member of the Board of Trustees, volunteered a contribution of \$15,000. The board promptly authorized the project. Other contributions were solicited with good results. The total cost of the Training School and Gymnasium Building was \$35,000. The dedicatory service was held February 17, 1902.

Administration of George H. Brimhall. On April 16, 1904, after having acted as President of the University while Benjamin Cluff was in South America, George H. Brimhall was appointed President of Brigham Young University. Joseph B. Keeler was appointed as his first counselor and Edwin S. Hinckley his second counselor.

Dr. Brimhall was also a former student of Dr. Karl G. Maeser. He was a dynamic speaker and also a great mold of character. He continually stressed the fact that the primary purpose of the school was to make better Latter-day Saints.

The Missionary and Preparatory Building, later known as the Art Building and now as B.Y. High, was dedicated October 26, 1904. It cost \$13,000, of which amount \$9,000 was apportioned to four stakes: Utah, Alpine, Nebo and Wasatch.

In 1904 the students and faculty began negotiations for the purchase of seventeen acres of land known generally as Temple Hill. This land, purchased from Provo City about 1907 at a total cost of \$1,000, was the beginning of the upper campus. A survey of the land purchased showed that about one and one-half acres at the point of the hill was not included in the deed given by Provo City. The students and faculty members of the school voluntarily raised an additional \$1,000 to pay for this land.

This purchase provided a place for the Maeser Memorial Building, the cornerstone of which was laid on Founder's Day, 1909. It was ready for occupancy the fall term of 1911. The structure and furnishings cost \$130,000; the Knight family contributed \$65,000, and other members of the alumni some \$50,000. The remainder of the cost was met through the sale of Blue Bench Irrigation Company Bonds owned by the school.

The Women's Gymnasium was erected in 1913 and the Mechanic Arts Building in 1919.

On December 21, 1914, the late Jesse Knight made an endowment to the University of one hundred thousand dollars in six per cent bonds. The interest payments on these bonds, together with the payments on bonds which have matured, have been placed at interest, and the cash credit of this account now represents approximately twice the amount of the original endowment.

During President Brimhall's administration, graduate work was introduced and the first master's degrees were conferred. The school spirit was furthered by the organization of the students into a student body. Printing of the school yearbook, *The Banyan*, was begun, and a huge white "Y" was placed on the mountainside east of Provo.

Dr. Brimhall served until July 1, 1921, a period of 17 years.

Administration of Franklin S. Harris. Franklin S. Harris, a former student of the institution under President George H. Brimhall, was selected to succeed his former president. Dr. Harris had received his Ph.D. degree from Cornell University in 1911 and had served as an instructor in the Juarez Academy and Cornell University, professor of agronomy for the Utah Experiment Station, director of the School of Agricultural Engineering and Mechanical Arts, and director of the Utah Experiment Station at the Utah State Agricultural College. He had a world-wide reputation as a scientist.

Dr. Harris became president July 1, 1921, and served until June 30, 1945, a period of 24 years, the longest term of any president. During his administration, academic gains of great significance were made. The University was organized into five colleges: Applied Sciences, Arts and Sciences, Commerce, Education, and Fine Arts; and the Division of Religion and the Extension Division were established. The graduate school was formally organized and a dean of the Graduate School appointed. The Heber J. Grant Library was completed in 1925, the Y Stadium in 1929, and during the last ten years of his administration a building program was begun which has been accelerating ever since.

It was President Harris who first envisioned the present expanded upper campus of the University and indeed who made it possible by his extensive purchasing of lands surrounding the original upper campus. It was also during his administration that all members of the Quorum of the Twelve became members of the Board of Trustees.

In 1935 two stories were added to the Mechanic Arts Building to provide additional classrooms and laboratories. The name was changed to George H. Brimhall Building. During 1935-36, a Stadium House on the west side of the football field was erected. In 1937-38, Allen Hall, a men's dormitory, and in 1938-39, Amanda Knight Hall, a women's dormitory, were constructed. These buildings accommodate 90 and 130 students, respectively. The construction of both buildings was financed by borrowing from the Knight Endowment Fund. The Joseph Smith Building was begun in 1939 and completed in 1941 as a project of the Church Welfare program. During 1943 the University acquired the National Youth Administration Building on the east part of the campus for use of the Mechanic Arts Department. In 1944, because of the acute housing problem created by the building of the Geneva Steel plant, it was equipped to serve as a temporary dormitory for women.

Administration of Howard S. McDonald. Howard S. McDonald, the next president of the University, served from July 1, 1945, to October 30, 1949. Before being appointed to this position he had served as assistant superintendent of schools in San Francisco and later as superintendent of Salt Lake City schools.

Under his leadership the school experienced a major expansion. From 1946 to 1948 the temporary women's dormitory at the southeast end of the campus was remodeled into what is now known as Social Hall, containing a large dance floor and classrooms and offices used by the Music Department. During the same period Knight-Mangum Hall, a four-level structure adjoining the Social Hall on the west, was constructed. This building provides housing and eating accommodations for 280 women. Because of the enlarged, post-war student body, student housing facilities were greatly increased. In cooperation with the Federal Works program, temporary housing, known as Wymount Village, was constructed in 1946-47 near the eastern edge of the campus for 200 married veterans and their wives and for 350 single veterans. Also under the Federal Works program of aid to education, temporary-type buildings were provided in 1946-47, consisting of the Physical Plant Building, Public Relations Building, North Building, Industrial Arts Building, Wymount Dining Hall, and University Press. In 1948 the Speech Department was moved to the Upper Campus and housed in temporary buildings. Here the Brigham Young University broadcasting station, KBYU, is located. A central heating plant costing \$200,000 was constructed in 1946.

Under President McDonald's direction the Eyring Science Center was begun and almost completed. Called by many educators the finest and most modern science building between the Mississippi and the Pacific Coast, it has four stories and contains approximately 150,000 square feet of floor space (practically the equivalent of the space of all of the other buildings of the University previously constructed). It is equipped with the finest facilities for study and research. Moreover, it is proof of the Church's sincere belief that there is nothing inconsistent between scientific truth and the teachings of the Gospel.

During his administration the planning and architectural drawings of buildings for the University were assigned to a University architect. The buildings and grounds were placed under the direction of a superintendent of buildings and grounds.

In the post-war era of expanding collegiate enrollments, Brigham Young University, under his direction, expanded at a much faster rate than many other universities of the country. The faculty was increased to meet the new need. The Graduate School and the Student Counseling Service were both reorganized. As was true with his predecessors, he upheld and perpetuated the spiritual ideals of the University's academic life.

Administration of Christen Jensen. Dr. Christen Jensen acted as President of Brigham Young University during 1939-40 (when Dr. Harris spent a year in Iran) and again from November 1, 1949, until the early part of 1951. His two periods of administration were characterized by an emphasis on scholarship and a meticulous observance of proper University standards. In an era of dynamic University problems, President Jensen directed an administration characterized

by academic and administrative stability and sound judgment. Under his direction the Eyring Science Center was completed and dedicated on October 23, 1950; the plans for the new George Albert Smith Fieldhouse were approved, a drive for funds conducted, and its construction practically completed at a cost of over \$1,000,000. It provides, in addition to athletic and physical education facilities, offices for faculty members in the College of Physical Education. The Fieldhouse has a capacity of 10,650 persons.

Administration of Ernest L. Wilkinson. In 1950 Dr. Wilkinson was selected by the Board of Trustees as the new President. He began his period of service in February 1951.

After graduating from Brigham Young University, he was graduated from George Washington University Law School where he received his LL.B. degree. He then attended Harvard Law School where he obtained the degree of Doctor of Juridical Science. After graduation he accepted an appointment to teach at the New Jersey Law School as professor of law. Soon thereafter he was invited to become an associate in the New York City law firm of which the Hon. Charles Evans Hughes, later Chief Justice of the Supreme Court of the United States, was the senior member. Later, organizing his own firm in Washington, D.C., Dr. Wilkinson achieved a national reputation as a lawyer, climaxed by obtaining judgments of \$32,000,000 for the Ute Indians, the largest judgments ever entered in the United States Court of Claims against the United States.

As a churchman he has served as a bishop in the New York Stake and as a member of the stake presidency in the Washington Stake, and he has represented the Church on the National Commission for Army and Navy Chaplains, which approves chaplains appointed to the armed forces of the United States.

In 1951 a Reserve Officer Training Corps unit of the Air Force was activated at Brigham Young University. The officers of this unit have been selected by the Secretary of the Air Force, with the approval of the President of the University. This unit is composed entirely of students regularly enrolled at Brigham Young University, and the same standards of conduct and living are required of them as of other students at the University. In accordance with an agreement with the federal government, a building was completed in October 1952, which serves as a permanent rifle range for the A.F.R.O.T.C.

During his ten years of service, the University has experienced over 100 per cent increase in enrollment. In 1953 the University became the largest church-related institution of higher education in the United States. The faculty has witnessed an even larger proportionate increase in numbers, and the five colleges, one school, and two divisions previously comprising the University have been increased to eleven colleges, one school, and one division: Colleges of Biological and Agricultural Sciences; Business; Education; Family Living; Fine Arts; General; Humanities and Social Sciences; Nursing; Physical and Engineering Sciences; Physical Education; Religious Instruction; Graduate School; and Adult Education and Extension Services.

Throughout his administration President Wilkinson has insisted upon ever-higher standards of scholarship. Under his direction the curriculum has undergone extensive revision to eliminate sub-university or duplicating courses, to strengthen existing courses, and to add courses needed in the expanding college program.

A notable advancement in the academic program of the University resulted from the action of the Board of Trustees in authorizing programs leading to the Ph.D. and Ed.D. degrees. Between November 22, 1957, when the first doctoral degrees were authorized, and the present date approval has been given to fourteen departments for programs leading to the Ph.D. degree in twenty-one fields of study. Two departments offer work leading to the Ed.D. degree.

Among his most significant achievements is the organization on January 8, 1956, of the Brigham Young University Stake of the Church. The original twelve wards have been increased to twenty-eight. Spiritual benefits of this program to students have been incalculable. One specific advantage is the providing of a

spiritual adviser to every 300 or 400 students, supplementing the regular University Counseling Service and offering a dual system of advising and counseling.

During the administration of President Wilkinson, the following new buildings and facilities have been added to the University:

The Herald R. Clark Student Service Center, begun in July 1952, was completed and made available for occupancy in March 1953. The financing of this building was primarily from income of the Students' Supply Center over its years of operations. In the building are housed, in addition to the bookstore itself, the Adult Education and Extension Services—including the Audio-Visual Communications Department; the studentbody offices and organizations; student publications; and student services such as a placement bureau, a housing office and a post office.

A large building project was started July 1952 with the construction of 16 buildings making up what is known as Heritage Halls. These buildings, completely modern in every respect, house 972 girls. Six girls live together in an apartment, preparing their own meals and doing their own housework. There are ten apartments to a building. Occupancy of the first of the buildings was begun in March 1953. The entire project was completed and fully occupied by the fall quarter of 1953.

Eight new buildings to house women students were added to the original 16 buildings of the Heritage Halls group. The total project was completed in the summer of 1956 and was fully occupied for the fall quarter of that year. The addition of these eight structures brings the total accommodations for this type of housing for women to 1,539.

The Engineering Building, constructed in 1953 and added to in 1954 and 1955, is an H-shaped building having four wings with laboratory space for the Civil, Mechanical, Electrical, and Chemical Engineering Departments. The central core of the building consists of offices serving the needs of the teaching staff. In 1953 a motion picture building with sound stage and related facilities was constructed. This building was equipped with the most modern animation and motion picture sound equipment for the production of educational moving pictures used throughout the Church.

The David O. McKay Building, a classroom building containing 104 offices and 31 classrooms and laboratories, was begun in March 1954 and completed in December of that same year. This building currently houses the College of Education, the Departments of English, Modern Languages, History, and Political Science, and sections of the College of Religious Instruction. In the early spring of 1955 the Benjamin Cluff Plant Science Laboratory, with two connecting greenhouses, was completed. This structure is used by the Botany, Agronomy, Horticulture and Horticultural Specialties Departments. The Howard S. McDonald Student Health Center was opened for use of all students enrolled at the University in the fall of 1955. The lower floor of this structure is currently used as headquarters for the A.F.R.O.T.C.

Construction of the Joseph F. Smith Family Living Center began in the fall of 1955 and was completed in December 1956. Housed in this structure are the College of Family Living, the College of Nursing, a nursery school, and the Departments of Psychology and Sociology.

New housing facilities for married couples were added to the University housing projects in 1957. Wyview Village, a project consisting of 150 two- and three-bedroom homes for married students, was completed and fully occupied in the fall of 1957.

Another project completed during 1957 was the conversion of the University heating system to a \$2,000,000 high-temperature water system.

In the fall of 1958 five residence halls for men, known as Helaman Halls, were completed. This project consists of residence structures housing 1,170 men,

and one central building with dining, recreation, and business office facilities. Two additional residence halls became part of this project in the fall of 1959, bringing the total number of accommodations up to 1,638.

A building for the production of motion pictures was completed in the fall of 1958. It is located in the river bottom area a short distance from the main campus. In December of 1959 the William H. Snell Industrial Education Building, containing 60 rooms for offices, class rooms, and laboratories for the Industrial Education Department, was completed. At this same time an addition to the George Albert Smith Fieldhouse was readied for use.

During the summer of 1960 the Jesse Knight Building, which houses all the departments of the College of Business, was brought to completion.

Under construction and scheduled for completion in 1961 are a new library and a new administration and general services building. A new fine arts center, a "Y" student center, a large married-student housing project, and a new physical plant building are in the drawing stages.

The University Today

Unification Plan. In every era of the Church its leadership has been sensitive to the need of continued intellectual and spiritual growth for its members. To meet this need, Church educational policies have constantly been adapted or modified to serve more fully the youth of the Church.

It was in such a spirit that all Church educational institutions were combined in July 1953 under one administrator, Ernest L. Wilkinson, who in turn is subject to a board of trustees for Brigham Young University and a board of education for the rest of the Church School System. Both boards, however, consist of the First Presidency and the Council of the Twelve. In announcing this unified plan the First Presidency said: "This great system of schools, institutes, and seminaries can become an ever more effective instrumentality in equipping the youth of the Church with solid foundations to meet the challenge of modern living." It added that Dr. Wilkinson "has surrounded himself with strong men to do a big job," and that "he will have at his service the strength not only of these men, but of all the members of the Brigham Young University faculty."

Since the approval of this plan during the summer of 1953 the administrative offices of Church education have been established at Brigham Young University. Thus this University becomes the mother institution for Latter-day Saint education. From this campus a spirit of simplifying efficiency, economy, uniformity of standards and procedures, and even wider cooperation and harmony can now weld all phases of Church educational work into a stronger unit than ever before.

Ernest L. Wilkinson, administrator of the unification plan, continues as President of Brigham Young University. Assisting him are three vice presidents: William E. Berrett, Earl C. Crockett, and Harvey L. Taylor. Joseph T. Bentley is Comptroller, and Ben E. Lewis is Director of Auxiliary Services. John T. Bernhard is Administrative Assistant to the President; William Noble Waite is Assistant to the President in Charge of University Development.

Under this new plan, established schools, seminaries, institutes, and colleges continue their functions. Changes will be brought about as need and the growth of the Church dictate. In addition, each institution shares its particular problems and philosophies with its sister institutions, as coordinated and interpreted by the administrator and his assistants.

A survey made during the spring of 1960 yielded the following information about the faculty:

- 33 were serving in general auxiliary boards of the Church.
- 15 were serving in stake presidencies.
- 2 were stake patriarchs.

- 57 were serving in stake high councils.
- 114 were serving in other stake positions.
- 52 were serving in ward bishoprics.
- 273 were serving in other ward positions.

Academic Growth and Recognition. Brigham Young Academy as originally organized by Karl G. Maeser had three departments: the Academic, the Intermediate, and the Primary. Instruction was given mostly in the work of the lower grades, although a normal class was included in the Academic Department. Today the University offers a full university curriculum, and its credits are recognized and accepted to the same extent as those of other leading American colleges.

The Brigham Young University is affiliated with the following educational associations:

- American Association for Adult Education
- American Association of Colleges for Teacher Education
- American Association of Collegiate Registrars and Admissions Officers
- American Association of University Women
- American College Public Relations Association
- American Council on Education
- American Library Association
- The American School of Oriental Research
- American Society for Engineering Education
- Association of American Colleges
- Department of Baccalaureate and Higher Degree of the National League for Nursing
- Educational Films Library Association
- National Association of Schools of Music
- National Association of Student Personnel Administrators
- National Commission of Accrediting
- National University Extension Association
- Utah Conference on Higher Education
- Western Council for Higher Education in Nursing
- Western Interstate Commission on Higher Education
- Western Personnel Institute

In addition, Brigham Young University is fully accredited by the following organizations:

- Northwest Association of Secondary and Higher Schools
- American Chemical Society
- National Council for Accreditation of Teacher Education for the preparation of elementary teachers, secondary teachers, and school service personnel, with the master's degree as the highest degree approved
- National League for Nursing
- Utah State Department of Public Instruction in cooperation with the United States Office of Education for the training of vocational home economics teachers

Growth of the Student Body. When founded in 1875, Brigham Young Academy gave elementary and high school work only. Over the eighty-seven years of its existence it has become in terms of full-time equivalent students the largest university in Utah. At the present time it is experiencing a rapid growth, which, if continued, will soon make it one of the largest institutions of the West.

At the time of its organization in 1875, nearly all of the students came from Utah County and its environs. Its student enrollment began at 29. During the regular 1959-60 school year, it had on the campus approximately 11,744 day-time resident students. This number combined with the enrollments of the Summer School, Evening School, and Laboratory Schools brings the total to 15,386 students. In addition, there were 23,637 enrollments in the Extension Services from September 1959 through August 1960.

The students registered during the last few years came from all the states of the Union, the District of Columbia, the Panama Canal Zone, and from 50

foreign areas. Approximately 55 percent of the students are from outside the state of Utah, and this percentage is increasing each year.

As in the days of Dr. Maeser, industry and thrift are encouraged, and at the present time over 40 percent of all students are employed, earning part of their subsistence.

Membership in the Church of Jesus Christ of Latter-day Saints is not required for admission, although at the present time 95 percent of the students are members of the Church. The other 5 percent, as a condition of their continuance as members of the student body, are required to abide by the same standards of morality and integrity as other students.



General University Services

University Library

The University Library Building contains the library collection, which includes approximately 325,000 bound volumes, several thousand pamphlets, and an extensive collection of titles on microfilm and microcards. A good selection of professional journals and of other current periodicals, as well as local, regional, and national newspapers, is also available.

The Brigham Young University Library is a depository for United States Government documents and regularly receives publications of state and local governments. The general library facilities are available to students, faculty, alumni, and other interested persons. Regularly enrolled students present their activity cards to borrow books. Others may obtain a permit from the circulation librarian. The library is open during the college year from 7:30 a.m. to 10:00 p.m. Monday through Friday, and from 9:00 a.m. to 5:00 p.m. Saturdays. It is closed during assemblies each Monday, Wednesday, and Friday from 10:00 to 11:00 a.m. Vacation hours, when school is not in session, are 9:00 a.m. to 5:00 p.m. Monday through Friday; it is closed weekends and holidays.

With the completion of the new library building during the summer of 1961, it was possible to bring together parts of the collection that had been housed temporarily in almost every major building on campus. The general collection is available on open shelves on four of the five floor levels—two below and two above the ground floor. The central reference collection, the public catalog, the circulation desk, and administrative offices are located on the ground level. An information booklet is available to assist you in the use of these new facilities. Study space is available on each floor interspersed with stack areas.

The special collections of the University Library are located on the fourth level. The books and other material housed in this area are not available for general circulation. Such collections often came to the library from individuals whose interests led them to devote many years to their acquisition. The material within each collection is usually confined to a specific subject area.

The facilities of other libraries operated by the L.D.S. Church are available also to students of Brigham Young University. The Genealogical Society Library, located at 80 North Main Street in Salt Lake City and open every day except Sunday, contains approximately 55,000 books and 125,000 rolls of microfilm. These include family histories, genealogy, biography and autobiography, military records, cemetery inscriptions, and town, county, and state histories of the United States and both local and national histories of other nations.

Facilities of the library of the Church Historian's Office are available by arrangement to advanced students for research. It is located in Room 103 of the L.D.S. Church Office Building, 47 East South Temple in Salt Lake City, and is open from 8:30 a.m. to 5:00 p.m. Monday through Friday. Its collections contain publications of the Church, periodicals of the various auxiliary organizations, reports and histories of the various missions, general history of the Church, biographies of Church leaders, and other pertinent published and archival material.

Science and Art Collections

The archaeological collection consists of materials for study and research in the early history of man. Original antiquities on display, illustrating the early history of man in the Old World, range from crude stone "hand axes" of the

Old Stone Age to inscribed tablets and other advanced products of the ancient biblical civilizations of the Near East. Those illustrating the early history of man in the New World include representative artifacts of the early Indian cultures of Utah and the Southwest and antiquities of the ancient pre-Columbian civilization of Mexico and Central and South America. Supplementing this exhibit are replicas of such famous archaeological monuments as the Rosetta Stone—key to the deciphering of the Egyptian hieroglyphics—and the "Tablet of the Cross" from the ancient Maya city of Palenque in Central America.

Also in the archaeological museum is a research archive of several thousand photographs and field card records of antiquities excavated or examined by archaeological expeditions of the University and other institutions.

The botanical collection includes an herbarium of fungi, liverworts, mosses and vascular plants from many parts of the world. The mycological collection consists of over 1,000 specimens of fleshy and parasitic fungi, most of which have been collected in the Rocky Mountain area. This represents one of the best collections of fleshy fungi of this region.

The vascular plant herbarium includes some 200 plant families, 1,200 genera, and 4,000 species. These are represented by over 25,000 herbarium sheets. The collection is made up principally of plants collected in the western states, but many plants of the eastern states, Europe, and South America are included as well as a good representation of the Arctic regions of Siberia, Iceland, and the Aleutians. The grasses are especially well represented. A separate collection of poisonous plants, range plants, woody plants, and plant diseases is maintained.

The department maintains a botany garden or arboretum where more than 300 trees of various regions of North America representing in excess of 100 species are grown in natural association. This garden is designed as an experimental project to enrich the tree flora available for use as shade trees, as a public educational exhibit, and as a study area for many classes.

The fine arts collection of paintings, sculpture, drawings, etchings, engravings, monotypes, lithographs, and reproductions of works of art is as follows:

I. Memorial Collections.

1. The Lee Greene Richards Collection of 36 paintings.
2. The James T. Harwood Collection of 90 paintings, etchings, and drawings.
3. The John Hafen Collection of 24 paintings.
4. The Elbert H. Eastmond Collection of 64 paintings.
5. The John Willard Clawson Collection of 85 paintings and sketches.
6. The Maynard Dixon Collection of 85 paintings and sketches.
7. The Edwin Evans Collection of 61 paintings.
8. The Rose Hartwell Collection of 71 paintings.
9. The Rose Hartwell Crafts Collection.
10. The Joseph Imhof Collection of lithographs.
11. The Merlin A. Steed Collection of 70 paintings.
12. The Mahonri Young Collection of 304 sculpture pieces (bronze and plaster), 326 paintings, 5,308 water colors and drawings, 1,112 etchings and prints.

Acquired with the Mahonri Young Collection are oils, pastels, drawings, water colors, etchings, and other prints totaling 2,116 pieces. Among the artists represented above are such names as Albert Bierdstadt, Clifford Beal, Camille Corot, Arthur B. Davies, William Glackens, Child Hassam, Winslow Homer, Edward Manet, Jean F. Millet, Joseph Pennell, John Twachtman, Dorothy Weir, J. Alden Weir, James Whistler, Harry Wickey, and others.

13. LeRoy Pharis Collection of 49 pieces of Chinese ivory carvings.

- II. Other Utah artists represented: George M. Ottinger, Daniel Weggeland, Loris Pratt, John B. Fairbanks, Samuel Jepperson, Minerva Teichert, Alma Wright, Waldo Midgley, Calvin Fletcher, Cornelius Salisbury, Joseph Everett, Henri Moser, Torlief Knaphus, Avard Fairbanks, Henry Rasmussen, B. F. Larsen, Edgar M. Jensen, Glen H. Turner, J. Roman Andrus, Warren B. Wilson, Richard L. Gunn, and Lavieue H. Earl.
- III. Other well-known national artists represented: Lee Randolph, George Elmer Browne, Fern Gary, Gordon Grant, Marie A. Hull, Haley Lever, Clarence Millet, Luis F. Mora, Chauncey F. Ryder, Matteo Sandona, W. Lester Stevens, Anthony Thieme, John Law Walker, J. Alden Weir, John Whorf, Eliot Daingerfield, George Pierce Ennis, John E. Costigan, George Henry Taggart, William Morris, Jon Corbino, J. Connaway, Robert Brackman, Peter Hurd, Marguerite Pearson, Henry W. Ranger, John Twachtman, John F. Carlson, Gene Kloss, Earle Loran, Emil Bistran, Umberto Romano, Lez Haas, and Eric Bransby.
- IV. Original etchings, lithographs and other prints, including the work of Ernest Fiene, Rockwell Kent, Joe Jones, Reginald Marsh, Waldo Pierce, Herbert Dunton, Boardman Robinson, Otis Dozier, Lawrence Barrett, John Taylor Arms, Kaethe Kollowitz, Gene Kloss, Conrad Buff, Reynold W. Weidenaar, Hans Erni, Fernand Leger, Glen Alps, Harry Sternberg, and Wendell Black. There are also 24 Rembrandt replicas.
- V. Oriental art, including Japanese paintings, prints, and reproductions.
- VI. Reproductions of famous works of art, including various types of modern art.
- VII. Large collections of slides, including natural color slides and the George K. Lewis memorial collection of kodachrome slides.

The Lotta Van Buren collection of ancient instruments and music contains rare old instruments, modern reproductions of ancient instruments, literature on ancient instruments, and a library of old instrument scores. In this collection are also some ancient costumes and pictures of interest.

Among the instruments, some of which were made in the Fifteenth Century, are the following: a viola da gamba (once owned by George Frederic Handel), five viols, a cittern, an Arabian lute, a two-manual harpsichord, a virginals, an octavina, two clavichords, a hurdy-gurdy, and other such instruments.

The Van Buren collection is one of the few collections in the United States in which all instruments are in playable condition. Several concerts in which some of these instruments are used are given each year.

This unusual collection, housed in a specially equipped room (210 College Building), is open for inspection by the public.

The geological collections of the University consist of an unusually complete series of minerals and an interesting variety of fossils.

The minerals number many thousands and are representative of the great western mining districts together with hundreds of localities of note. Part of this collection once represented the nucleus of the famous Deseret Museum Collection of Salt Lake City.

The fossil series are representative of many states and typical world localities. Much of this material also was formerly a part of the Deseret Museum Collection.

The zoological and entomological collections of the University consist of a large series of identified vertebrate and invertebrate species from Utah and other areas. These materials are available for regular class work and for research.

The vertebrate collections consist of ample series of well preserved and catalogued species of fishes, amphibians, reptiles, birds, and mammals. The collec-

tions include the Chester Van Buren Collection of South American birds; the Robert G. Bee, John Hutchings, and Ashby D. Boyle collections of bird eggs; and the David Starr Jordan Collection of fishes from the Hawaiian Islands. Several of our staff members have obtained collections from Mexico, the South Pacific islands, Formosa, and other distant localities, in addition to the ample collection of local species.

The invertebrate collections include several hundred thousand insect specimens and their near relatives as well as other groups of animals. This collection includes a large number of medically important arthropods such as fleas, lice, mites, and ticks. The special collections include the Lee F. Braithewaite Collection of marine invertebrates, the Tom Spaulding and Ashby D. Boyle butterfly collections, the Charles W. Leng Collection of beetles, and the Charles Schaeffer Collection of weevils. These are in addition to other minor collections and to many specimens collected locally and in other parts of the world by the University staff and students.

Faculty Organizations

B.Y.U. Women. The purpose of the organization known as B.Y.U. Women is to foster the ideals of the institution and to help furnish recreation and social amusement for the faculty. A woman is eligible for membership in this organization and becomes a member on payment of dues provided that at the time she seeks admission she is either (1) a present faculty member (A faculty member is one who holds at least the rank of instructor.), (2) a past faculty member, (3) a matron, (4) a boardmember, (5) the wife of a faculty member who has died while in the employment of the University, (6) the wife of a present faculty or board member.

The Society of the Sigma Xi. The Society of the Sigma Xi is a national organization devoted to the encouragement of research in pure and applied science. The local unit is known as the Brigham Young University Chapter.

Members of the Society of the Sigma Xi on the staff at Brigham Young University organized a Sigma Xi club in 1935. Since that time it has remained continuously intact, encouraging research and other activities in the various branches of science. A petition for chapter standing was submitted by the local club in 1949. A chapter was granted by the National Society of the Sigma Xi, and formal installation took place October 17, 1950.

Specific local projects include the sponsoring of a national Sigma Xi-appointed lecturer, the promotion of several lectures by prominent scientists within the unit and from nearby institutions, an annual Sigma Xi lecture by a member of the chapter, the awarding of an annual medal to an outstanding student for the completion of a research project, and the direction of possible sources of research funds in the interest of pure and applied science.

Alumni Association

The Brigham Young University Alumni Association was organized in 1893 to "promote the general welfare of Brigham Young University."

During the sixty-eight years of its existence, it has assisted the University in many ways: The Maeser Memorial Building was built with funds from alumni; part of the property on which the upper campus now stands was obtained by the Alumni Association and turned over to the University, and eighty additional acres were purchased by the Church at the suggestion of alumni leaders; a permanent endowment fund was established in 1929; the Alumni Association is now taking an active part in the Brigham Young University Destiny Fund Program; the fieldhouse fund drive was supported by the Alumni Association; funds in cash have been turned over to the University at various times for unrestricted use; and the alumni have played a vital part in stimulating interest in Brigham Young University through contacts with prospective students, etc.

Alumni of the University now number more than 80,000 and are located in all fifty states, four United States territories and possessions, and fifty-two foreign countries. Stake and mission presidents of the Church appoint alumni in their respective stakes and missions to serve as B.Y.U. coordinators who organize and conduct alumni activities in their areas. These coordinators are also members of the Alumni Council, governing board of the Alumni Association. The Council meets twice each year, during the weeks of April and October L.D.S. general conferences. Routine matters of the association are handled by an eighteen-member executive committee, headed by a president, two vice-presidents, a treasurer, the president of the Emeritus Club (composed of alumni who were at the University fifty or more years ago), and a full-time executive secretary. Members of the Executive Committee are selected each year to serve terms of three years. Members of the Executive Committee are also members of the Alumni Council.

Anyone who has attended the University for one quarter or more is a member of the Alumni Association. There are no annual dues or membership drives, except that the Alumni Association solicits contributions for the Brigham Young University Destiny Fund. All contributions to this fund are tax-deductible and entitle the donor to receive publications of the University and the Alumni Association, including the *Alumnus Magazine*, which is issued bi-monthly except during the summer.

Homecoming, in the fall, and Alumni Day, during Commencement Week, are the two major events of the year on campus for alumni. Periodic reunions of all graduating classes are held on these two days. Meetings also are held throughout the country by alumni living in local areas.

The Alumni Association maintains permanent records of all former students of the University and a full-time office staff on the campus. If the current address or other information is needed about a former student, correspondence should be addressed to the Alumni Office. Alumni visiting the campus are invited to visit the Alumni Office and to make it their headquarters while in the area.

The Alumni Association is a member of the American Alumni Council, an organization composed of alumni associations of all the major universities and colleges in the United States, Canada, and Mexico.

Brigham Young University Destiny Fund

On November 4, 1957, the First Presidency announced the establishment of a long-range gift development program to be known as the Brigham Young University Destiny Fund. The objective of this program is first to raise \$5,000,000 from the people most closely associated with the University—students, faculty and staff, alumni, and friends, both in and out of the Church. With this tangible evidence of loyalty, the program then will be extended to corporations, foundations, and other sources. William Noble Waite, assistant to the President, is in charge of University development and the raising of funds for Brigham Young University and the Church Educational System. This fund-raising program is known as the Destiny Fund.

Security and Traffic

The Security Office is a protective agency established for the benefit of students, faculty, and staff. It maintains effective liaison with the local police department, and is entrusted with the proper enforcement of campus rules and regulations. All matters concerning security or requiring police action should be referred to this office.

Another major responsibility of the Security Office is the control of campus motor vehicle traffic and parking. In each academic year University staff members and students who regularly or occasionally operate motor vehicles in Utah County shall register any such motor vehicles with the University Traffic De-

partment. In the case of students this is a registration for identification only, not a parking permit. All staff members and students who plan to park on University parking lots between 7 a.m. and 5 p.m. on school days must display a parking permit on their motor vehicles. The student parking fee is \$5.00 per year.

The Security Office also offers many other services to all students and staff members, including a Lost and Found Department; the taking of fingerprints necessary for teaching certificates, government jobs, and A.F.R.O.T.C.; and an ambulance service in connection with the Student Health Center.

All campus roads will be closed on Labor Day each year to preserve the private ownership thereof.

Important Notice to All Students Who Own or Operate Motor Vehicles

IF you are temporarily residing in Utah for the primary purpose of attending B.Y.U. and intend to return to your home state after the completion of your studies, AND

IF your home state exempts nonresident students from paying for the licensing of their motor vehicles in that state, AND

IF you have duly registered your vehicle in your home state and paid the taxes there,

THEN YOU MAY

- (1) obtain a certificate from the B.Y.U. Admissions and Records Office evidencing the fact that you are a nonresident student in good standing; and
- (2) present that certificate to the Utah State Tax Commission (Room 102 in the County Building in Provo) and, upon proper application, receive, without charge, a nonresident permit to operate your motor vehicle in this state for the term of your current B.Y.U. registration.

If you are not entitled to the nonresident permit mentioned above, your vehicle must be registered in accordance with the Utah laws.

Attention is called to the possibility that legal difficulties may be encountered by any student who obtains a nonresident automobile permit and votes or hunts as a Utah resident.

Every student who is a resident of Utah and every nonresident student who is in Utah for more than 60 days is required to have a Utah Operator's License before he may legally operate a motor vehicle on the highways of this state. This license may be applied for at Room 101 in the County Building in Provo. The cost is \$2.00.

Student Academic Services

Office of Admissions and Records

The Office of Admissions and Records is primarily a service office for all Brigham Young University students from the date they apply for admission until they are graduated from the University. It is a service agency also to parents, to the faculty, to the State, and to various agencies who are eligible to receive information regarding the records of these students.

Student academic services performed by the Office of Admissions and Records for the University include:

- Admission of students
- High School and Junior College relations
- Undergraduate scholarships and awards
- Registration of students
- Preparation of class schedules
- Assignment of instructional space
- Assignment of office space
- Evaluation of transfer credit
- Evaluation of foreign student credit
- Graduation summary reports
- Academic grade reports
- General education program evaluation
- Transcripts of University credit**
- Services to veterans
- Selective service information
- Statistical information
- Preparation of graduation lists

The dean of Admissions and Records has general supervision over the services listed above. It is his responsibility to initiate and to recommend regulations, policies, and procedures for implementing these student academic services and to administer the program of the Office of Admissions and Records as approved by the administration of the University.

Admission

Admission to the University is granted on the basis of an official application. The necessary forms are furnished by the Office of Admissions and Records upon request.

Students who apply for admission and who are accepted by Brigham Young University are required to maintain ideals and standards in harmony with those of the Church of Jesus Christ of Latter-day Saints. High standards of honor, integrity, and morality; graciousness in personal behavior; application of Christian ideals in everyday living; and abstinence from alcohol and tobacco are required of every student.

It is **not** necessary to pass an entrance examination in order to be admitted to the University.

New Freshman Students. To be admitted to the University as a regularly matriculated student, an applicant must be a graduate of an approved high school and must have selected nine academic units from one or more of the following areas: English, mathematics, science, social science, foreign language.

To be eligible for regular admission, a student must also have a grade-point record average of 2.2 (A=4.0, B=3.0, C=2.0, D=1.0, E=0) in his previous high school work. If a student has a grade-point average of 2.0 to 2.2 he may be admitted on academic probation.

A student who has not graduated from high school but who has sixteen units (Carnegie) of high school credit may be admitted if his course of study and grades are approved by the Admissions Committee.

Students nineteen years of age and over who have not completed high school but who are otherwise eligible for admission may register as regularly matriculated students after the successful completion of the high school level General Education Development Tests. These tests may be taken at Brigham Young University, at the testing divisions of most colleges and universities, at most Armed Forces Educational Centers, or at a number of high schools.

Applications for all new freshmen students seeking admission to B.Y.U. should be submitted at least **thirty days** prior to the time of registration. Students who submit applications after this date may encounter delay and inconvenience in their admission and registration.

New Transfer Students. To be admitted to the University, a transfer student must give evidence of having maintained an average of 2.0 (A=4.0, B=3.0, C=2.0, D=1.0, E=0) in his previous college work.

Applications should be submitted at least **thirty days** prior to the time of registration. Students who submit applications after this date may encounter delay and inconvenience in their admission and registration.

The early presentation of all transfer credit is necessary in order that the credit may be properly evaluated prior to registration.

New Students from Foreign Countries. To be admitted to the University, a student from a foreign country must present credentials corresponding to the requirements stated above under the headings "New Freshmen Students" or "New Transfer Students."

Foreign student applications received on or before April 15 will be considered for the first semester. Applications received on or before August 15 will be considered for the second semester. Applications for the summer term should be received on or before January 15.

Former B.Y.U. Students. All former B.Y.U. students who have discontinued school for one semester or more must apply for readmission. Readmission applications are furnished by the Office of Admissions and Records upon request.

Applications for readmission should be made at least **thirty days** prior to registration.

Repeating Students. Registration packets are prepared for all students in attendance at the University the previous semester.

Summer School Students. The same admission requirements as already outlined apply to new summer school applicants.

Those students who were in attendance at either of the two previous summer sessions need not apply for readmission. Registration packets are prepared for them.

Notice of Acceptance. A notice of acceptance will be promptly mailed to all new and former students who have been accepted by the University. A student with deficiencies will receive an answer to his application for admission outlining the problems involved.

Undergraduate Scholarships, Awards, and Grants

The University annually awards to high school graduates, to students transferring from other colleges or universities, and to Brigham Young University students a significant number of scholarships and awards. Recipients for scholarships are selected on the basis of demonstrated academic ability, character, leadership, and service activity. Candidates for awards are determined on these same bases, and they are also considered on the basis of outstanding skills in the areas of speech, drama, music, art, dance, journalism, and forensics.

The University awards grants-in-aid to deserving students who have maintained a commendable academic record and who are in critical financial need. Grants-in-aid, as well as scholarships, are applied toward the payment of tuition and general fees. Any renewable scholarship, award, or grant is contingent upon the recipient's maintaining a 3.0 (B) grade-point average while carrying fifteen semester hours or more during the current semester. A scholarship, award, or grant may be withdrawn at any time at the discretion of the Undergraduate Scholarships and Awards Committee if the recipient has failed to comply with the spirit and letter of the original terms of the scholarship, award, or grant.

The University also awards grants to selected athletes who can qualify under the rules and regulations of the Mountain States Athletic Conference to be eligible for athletic grants. These grants may include part or all of the students' commonly accepted educational expenses as defined by the N.C.A.A. A student athlete must meet either of the following recommendations:

- a. If a freshman, he must have been rated academically as in the upper two-thirds of his high school graduating class. For the first year, such an award shall be made for the entire school year.
- b. If not a freshman, the student must be in good academic standing and not on probation. Such an award shall be made on a semester basis.

Graduate students are eligible for scholarships, fellowships, and grants. For further information see the Brigham Young University Graduate Catalog.

All scholarships, awards, and grants-in-aid are under the jurisdiction of a central committee which alone has the authority to promise or grant an award. All applications for these should be made to the chairman of the Committee on Scholarships and Awards.

Registration

Registration Procedure. Details of the registration procedure are outlined in the class schedule issued each semester by the Office of Admissions and Records.

Limitation on Credit in One Semester. Undergraduate students in good standing may register for as many as 17 hours of credit in any one semester by following the regular registration procedure. In the case of a student who has academic ability of high quality, the dean of a college may authorize the student to register for a maximum of 18 hours for the first semester in residence and a maximum of 19 hours for any succeeding semester. Any student who has completed 15 or more hours of college work and who has a cumulative average of 3.5 (or a 3.5 average in the semester previous to registration) may register, with the consent of his dean, for 21 hours. Classes taken for audit, registration by correspondence, evening school, or off-campus courses constitutes a part of the student's total registration. Any exceptions to the above rules shall be presented to the dean of Admissions and Records by the dean of the college concerned.

Time of Registration. Students are urged to register on the days set aside for registration (see University Calendar). A late fee is charged to each student who does not complete his registration on the specified days. The term "registration" refers to the entire procedure, including the payment of fees. A student

may enroll in any class during the first three weeks of the semester if he has the permission of the instructor of the class and the approval of the dean of the college in which he is enrolled.

Course Divisions. Courses of study are given numbers as follows:

Preparatory and remedial courses	1-99
Lower division courses	100-299
Upper division courses	300-499
Courses for graduates or advanced undergraduates	500-599
Graduate courses	600 and above

Election of Studies. With the advice and approval of the dean of the college in which he registers, the student should elect such studies as are desirable. The major and minor, as well as the general requirements for graduation, should be kept in mind in electing studies.

Withdrawal from Classes. Students discontinuing registration at the University are required to clear their termination through the office of the dean of their college and then the dean of students.

Any student withdrawing from individual classes shall clear with the dean of the college in which he is registered.

- a. If a student officially withdraws from a class during the first three weeks of a semester, the permanent record will show no registration for the class in question.
- b. A student who is doing passing work in a course may drop the class between the third and twelfth week if such action is recommended by the teacher, the student's adviser, and the dean of his college, and if it is approved by the Academic Regulations Committee. A grade of "W" will be assigned for the class.

A student who is doing failing work in a course may drop the class after the first three weeks if he has the approval of his adviser and the dean of his college and the teacher's signature. A grade of "WE" will be assigned for each class so dropped. A "WE" grade counts the same as an "E" grade in computing the grade-point average.

- c. If a student drops a class any time during the semester without officially withdrawing, he will receive a grade of "UW" (meaning unofficial withdrawal) in each course so dropped. This will indicate that the student has failed to clear officially with the University. A "UW" grade counts the same as an "E" grade in computing the grade-point average.

Withdrawal from Evening School Classes. Students who withdraw from classes for which they have registered in the Extension Services office must do so by notifying that office and completing the withdrawal forms. An evening school student who does not properly withdraw will receive a failing grade.

Registration of Prospective Secondary Teachers. All certificates for teaching, counseling, supervising, administration, and library work in the public schools of Utah are granted by the State Department of Public Instruction.

When all requirements for state certification have been fulfilled, students of the University who are registered in any of its colleges or in the Graduate School will be recommended for certification by the dean of the College of Education. This recommendation will be given just as readily to prospective secondary teachers who have registered in other colleges as to those who have registered in the College of Education; the dean of the College of Education acts merely in an administrative capacity as the representative of the University. However, all students in the teacher certification program, regardless of their college registration, are required to have an assigned adviser in the College of Education to approve the professional education sequence courses. Assignment of education advisers is made in the Teacher Certification Office.

Most students seeking an elementary certificate register in the College of Education. However, programs are available for majors in human development and family relationships and in speech correction to obtain an elementary teaching certificate.

Students who desire state certificates should make application with the dean of the College of Education through the Teacher Certification Office and not with the State Department of Public Instruction.

Completion of Registration. When the student has followed the prescribed registration procedure and has paid his fees, his registration is complete. The University will hold the student responsible for completion of the courses for which he has been enrolled, unless he obtains approval for a change in registration or files an official withdrawal from the University.

Complete Withdrawal from the University. Any student withdrawing from the University after the third week must be doing passing work in his classes if he is to discontinue without academic failure.

Records

Classification of Students. At the beginning of each semester regular students will be classified for that semester as follows:

Credit hours earned

0 to 31
32 to 62
63 to 93
94 and over

Classification

freshman
sophomore
junior
senior

Engineering students having more than 124 semester hours will be classified as 5th year professional students.

Completion of the required courses in freshman composition is prerequisite to classification as a junior.

A student who has met the entrance requirements but who registers for nine hours of work or less will be classified as a part-time student.

A regular student who has completed all requirements for the bachelor's degree is classed as a graduate student. A graduate student or a student holding a bachelor's degree from a four-year accredited institution may register at Brigham Young University as follows:

- a. In the Graduate School under the regular requirements for an advanced degree.
- b. In the Graduate School as a non-degree seeking student.
- c. In an academic college of the University seeking a second bachelor's degree.

A second bachelor's degree may be obtained by the student's completion of at least an additional thirty hours of credit prescribed by the college in which the second degree is taken. Admission procedures to the Graduate School are indicated in the Graduate School Catalog and apply to those who have graduated from Brigham Young University as well as from other universities.

Credits. A student may have credit entered on the books of the University as follows:

- a. For work done in the regular courses offered by the institution.
- b. For courses taken by correspondence, in the evening school, or in the off-campus program. All such courses taken by a currently enrolled student **must** have the approval of the student's dean and will be considered part of his current semester load. Students will be held respon-

sible for any unauthorized overload for which they register, and such credit will not be allowed.

- c. For work done in an accredited college when such credit is to be used for graduation from Brigham Young University. Credit from other schools should be filed with the Office of Admissions and Records upon application for admission to the University.
- d. By passing a satisfactory examination in any course offered by the University. Such credit will be given only with the consent of the head of the department concerned, the dean of the college in which the student is registered, and final approval for recording by the Office of Admissions and Records.

A fee of \$7.50 per credit hour is charged for special examinations provided the total fee for any one subject does not exceed \$45.00.

By payment of an auditing fee, a student may obtain permission to audit courses of instruction. Under no circumstances can credit be obtained by means of special examinations for courses which have been audited.

Grading System. The present grading system uses the letters A, B, C, and D, to indicate that the student receives credit, and E to indicate that no credit is allowed.

The "A" grade is given only to students whose intellectual capacity and actual academic achievement are of exceptional quality. Work of a quality somewhat higher than average but not of exceptional quality receives a "B". "C" indicates that the student has completed classroom work, outside assignments, and examinations in an average manner.

Students who fail to reach the average academic achievement, but who do work of a quality still acceptable to the University are given a "D" grade. A "D" grade draws credit even though the work done is not fully satisfactory. Students who fail to achieve work of minimum university quality receive an "E" grade. This grade mark draws no credit.

If a student withdraws officially from a class during the first three weeks of a semester, the permanent record will show no registration for that class.

If a student properly withdraws from a class between the third and twelfth week his record will be marked "W" if he is passing in the course and "WE" if he is failing the course.

If a student discontinues attending a class at any time during the semester without going through the official withdrawal procedure, he will receive a grade of "UW" (unofficial withdrawal). A "UW" has the same negative value as an "E" in computing a grade-point average.

Students withdrawing after the third week who cannot present a valid excuse for being absent from class prior to withdrawal should be graded "UW" if they do not withdraw officially and "WE" if they withdraw officially.

The letter "I" (incomplete) is used to indicate that the work is not yet completed. It should be given **only** when special arrangements for the completion of the specific work involved have been made between teacher and student. The "I" should **never** be given when the student has failed or is failing the course. A grade of "I" changes automatically to "E" in the Office of Admissions and Records unless the work is completed within one year from date the grade is given.

The letter "T" is used to indicate satisfactory progress in thesis work for the amount of credit registered for in a given semester. The final grade is given when the thesis is completed. The grade "I" should not be used to indicate thesis progress.

The letter "P" (passed) is used only in connection with the student teaching program of the College of Education of the University.

No final grade once recorded in the Office of Admissions and Records shall be changed except to correct the record when an error in calculation has been made by the teacher, in posting by the Data Processing Department, or in the Office of Admissions and Records, or by action of the Academic Regulations Committee. When such corrections need to be made, an official "Teacher Grade Change Authorization" form must be filled out; signed by the teacher, the chairman of the department, and the dean of the college; and sent directly to the Office of Admissions and Records.

Semester grade reports will be mailed to all students at the end of each semester. It is also the policy of the University to send semester grade reports to the parents of all single freshman students under twenty-one years of age and all unmarried students who are on academic probation.

Veterans' Service

All veterans should have their military experience evaluated for credit by applying to the Office of Admissions and Records.

Korean (P. L. 550). Veterans who had active military duty any time after June 27, 1950, and prior to January 31, 1955, are eligible for veteran benefits under Public Law 550, 82nd Congress.

All veterans must begin their schooling under the Korean G.I. Bill within three years of their date of discharge or separation from the service. New veterans must make an application for eligibility. This application can be made upon the veteran's first arrival at the University. It is necessary to bring a copy of veteran's release from active duty, DD 214. A certified copy of a marriage certificate and/or child's birth certificate are necessary for veterans claiming dependents.

Veterans transferring their G.I. benefits from other schools to B.Y.U. must bring a certificate of eligibility restricted to B.Y.U. This must be obtained by making application at the last school attended.

War Orphans Education Program (P. L. 634). War orphans must bring a certificate of eligibility restricted to B.Y.U. before entering school under the War Orphan Program. This may be obtained by making application at the nearest Veterans' Administration Regional Office.

For further information concerning any educational benefits problem, please write to Veteran Coordinator, Office of Admissions and Records, Brigham Young University, Provo, Utah.

Graduation

Two-year Certificates. A two-year certificate is awarded by the University in the fields of agriculture, business, engineering, genealogy, and industrial technology.

Baccalaureate Degrees. The University confers the baccalaureate degrees of Bachelor of Engineering Science, Bachelor of Science, and Bachelor of Arts in the various academic colleges.

Advanced Degrees. Requirements for masters' and doctors' degrees conferred by the University are described in the Graduate School section of this catalog.

Doctors' degrees are awarded by the University in the fields of chemistry, Bible and modern scripture, educational administration, educational psychology, geology, history, history and philosophy of religion, human development and family relationships, musicology, physics, psychology, and sociology.

Minimum Requirements. For a student to be admitted to candidacy for a two-year certificate or a degree, his scholastic record must show that he has

satisfied the entrance requirements to the University and that he has met all other necessary provisions.

In order to become a candidate for a baccalaureate degree, a student must maintain at least a 2.0 (C) cumulative grade-point average.

The student must earn a minimum of thirty semester credit hours on the Brigham Young University campus at Provo for a bachelor's degree.

The following graduation requirements apply to all candidates for a Bachelor of Arts or a Bachelor of Science degree from any of the colleges of the University:

Total amount of credit	124 hours
Upper division credit (minimum)	40 hours
Requirements for a major	20 or more hours
Requirement for a minor	14 hours

A candidate for a Bachelor of Arts degree is required to furnish training equivalent to sixteen hours of college credit in one foreign language. A candidate for a Bachelor of Engineering Science degree must complete the required courses in one field of engineering and must have a total of 154 hours of credit.

Major and Minor Requirements. At the time of his graduation, the student must have completed at least twenty semester hours in his major department. He must also have completed no fewer than fourteen semester hours in collateral or minor subjects selected from courses approved for this purpose by the department or departments offering these courses, and approved by the chairman of his major department.

Departments offering majors upon successful completion of completely prescribed curricula which essentially meet the above requirements and which have been approved by the University Curriculum Committee, need not specify a separate minor. Major departments offering programs which include minor subjects from more than one department must have such programs approved by the Curriculum Committee.

Credit Restrictions. Not more than twenty-four of the total hours required for the baccalaureate degree may be correspondence credit.

Not more than eighteen hours of "D" grade credit may be applied toward graduation.

All incomplete grades must have been removed from the candidate's record at least **four weeks** prior to graduation.

Junior English Proficiency Examination. Each student with more than sixty semester hours of credit who has completed his freshman composition requirement must take the Junior English Proficiency Examination the first semester in which he is eligible for it. If he fails this examination, he must take a non-credit remedial course during the next semester in which he is a full-time student to correct his deficiencies before he may take the Proficiency Examination again. Passing this examination is a graduation requirement.

Application for Graduation. Application for graduation is made by obtaining the appropriate form from the Office of Admissions and Records. Those students expecting to graduate in June should file the completed form with the Office of Admissions and Records not later than January 15, and candidates for August commencement not later than March 15.

Attendance at Commencement. Each individual who graduates from the University must attend the commencement exercises unless officially excused under the authority of the President of the University. The request to be excused from the commencement exercises must be presented in writing at least two weeks prior to commencement—extreme emergencies of either illness or death in the

family being the only exceptions to this requirement. Students not officially excused from commencement will not be graduated until they attend a later commencement in person.

Change in Graduation Requirements. The University reserves the right to change the requirements for graduation, and a candidate for graduation will be required to comply with all changes which pertain to the incompleting portion of his course.

General Education Requirements. All candidates for a bachelor's degree must fill the group requirements listed below under the topic "General Education Program."

Scholarship Recognition

In acknowledgement of outstanding scholarship, academic recognition is granted to certain bachelor's degree candidates. The announcement of such awards is made at the annual commencement exercises.

There are two designations in recognition of high scholarship: graduation *magna cum laude* and graduation *cum laude*. The award of *cum laude* is made on the basis of excellence shown in work up to, but not including, the second semester of the senior year.

A student receiving either type of recognition must rank among the highest ten per cent in his graduating class. Graduation *magna cum laude* will be awarded to the highest three per cent. Graduation *cum laude* will be given to the next seven per cent. This rating is determined by computing a grade-point average as follows: each credit hour of "A" counts 4; each credit hour of "B" counts 3; each credit hour of "C" counts 2; each credit hour of "D" counts 1; "E" counts 0. The total number of points is computed and is divided by the number of credit hours carried.

The University will post and publish at the close of each semester of the regular school year the names of the students who have carried a minimum of 15 credit hours and earned a grade-point average of 3.5 or above in all classes. Those with grade-point averages of 3.8 and above will be given special recognition.

General Education Program

All students entering B.Y.U. since the first semester of 1960 are expected to complete the new program of General Education requirements. Other students may complete either the new program shown here or the old program outlined in the 1959-60 General Catalog. These students may choose either program but may not combine the two. All students who graduate after August 1963 will be expected to have completed the new program.

Transfer Students. At Brigham Young University a student has completed the General Education requirements except in religion and American history and government if he has graduated from any accredited, two-year collegiate institution having a pattern of general education similar to that at B.Y.U., provided that he presents satisfactory evidence of having completed these general education requirements. Also, a student has completed the General Education requirements except religion and American history and government if he transfers to Brigham Young University from an accredited, four-year college or university having a pattern of general education similar to that at B.Y.U., provided that he presents satisfactory evidence of having completed the general education requirements of his former college. Other transfer students will have their transcripts audited in terms of the B.Y.U. program and will be notified prior to or during their first semester at B.Y.U. as to what remains to be completed.

Requirements

	Semester Hours
American history and government	3
Biological science	6
English composition	6 or 4
Health	2
Humanities and fine arts	8
Physical education	2
Physical science	6
Religion (2 hours per semester in residence)	16
Social science	5

American History and Government. This requirement applies to all candidates for the bachelor's degree. It may be satisfied by examination or by course work. Every student entering the University takes a placement test covering both American history and American government. Students showing highly superior preparation are exempted from course work under the requirement. All other students take History 170, except as provided below.

Students majoring or minoring in history, political science, economics, finance and banking, journalism, or secondary education (social science) take whichever of the following combinations is recommended for their field: History 120 and 121; History 121 and Political Science 110; or Economics 274 and Political Science 110. Other students may also elect these combinations instead of History 170. A student taking one of these combinations may, for general education group filling purposes, elect to apply either of the courses to the American history and government requirement and the other to the general education category in which the course is regularly listed.

Transfer students desiring to offer work from other institutions in satisfaction of all or part of this requirement should consult the History Department.

Biological Sciences. To satisfy the General Education requirement in the biological sciences, a minimum of six semester hours of college credit is required. The general student who has not had adequate training in biology in high school, as evidenced by his score on the entrance examination, must take a three-hour principles-of-biology course, Botany 101 or Zoology 105. The remaining requirements shall be satisfied by completing courses specified by the departments of Bacteriology, Botany, or Zoology, given in the list below. A student whose entrance tests indicate adequate training in Biological Sciences will not take Botany 101 or Zoology 105 for General Education credit but shall take his six hours from the more advanced courses. At least one course must have a weekly laboratory whether the student takes the general course or not, and courses from two departments should be represented.

The following courses may be taken to fulfill the General Education requirement in Biological Sciences. All courses listed require Botany 101 or Zoology 105 or their equivalent (by-pass qualification) as a prerequisite.

Bacteriology 121	(3)	General Bacteriology
Bacteriology 311	(2)	Sanitation and Public Health
†Bacteriology 321	(3)	General Microbiology
†Bacteriology 331	(4)	Microbiology
Botany 101	(3)	Plant Biology
Botany 105	(3)	The Plant Kingdom
Botany 176	(3)	Heredity
Botany 205	(2)	Field Botany
Botany 376	(3)	Genetics
Botany 450	(3)	Plant Ecology
Botany 460	(2)	Conservation of Natural Resources
Zoology 105	(3)	Animal Biology
Zoology 176	(3)	Heredity
Zoology 212	(4)	Invertebrate Zoology

Zoology 213	(4)	Vertebrate Zoology
Zoology 261	(4)	Human Anatomy and Physiology for Nurses
Zoology 315	(3)	Natural History
Zoology 376	(4)	Genetics

English Composition. The requirement is six semester hours for the majority, and four semester hours for the superior group selected by testing for English 115 and 116.

Health. The requirement is two semester hours, Health 130, to be taken either semester of the freshman year. For students who present evidence of superior preparation, the requirement will be waived. This will be determined by an examination prepared by the Health and Safety Education Department. Students must register for the class and then petition for the examination. Veterans with at least one year's service are exempt from the requirement. Nurses who complete Nursing 202 and 212 are also exempt.

Humanities and Fine Arts. The requirement is 8 semester hours. Of the eight hours the student must take 3 hours in literature and course work in at least two other departments. A full year's beginning course of 8 semester hours in a foreign language shall carry 3 semester hours toward the satisfaction of this group requirement and may reduce the requirement in literature to two semester hours.

†Archaeology 310 (3) Introduction to Oriental and Biblical (Historical Near-Eastern) Archaeology

Art 101	(2)	Introduction to Art
Art 108	(2)	General Art
Art 110	(2)	Design in Everyday Life
Art 306	(3)	Art History and Appreciation
Art 307	(2)	Contemporary Art
Art 308	(2)	American Art
Art 403	(2)	Ancient and Primitive Art
Art 405	(3)	Medieval and Renaissance Art

Dramatic Arts 121	(3)	Voice, Diction, and Interpretation
Dramatic Arts 315	(2)	Introduction to the Theatre
Dramatic Arts 316, 317	(3 ea.)	Theatre History

Economics 274 (3) Economic and Financial History of the United States

English 250	(3)	Introduction to Literature
English 252	(2)	Introduction to Poetry
English 253	(2)	Introduction to Drama
English 256x	(3)	Classic Myths
English 260	(3)	Masterpieces of American Literature
English 270	(3)	Masterpieces of English Literature
English 282	(2)	Shakespeare
English 331, 332, 333	(2 ea.)	The English Novel
English 335, 336	(2 ea.)	The American Novel
English 338	(3)	The European Novel
English 345	(3)	The Spirit of Tragedy in Literature
English 346x	(2)	Greek Life and Drama
English 350	(2)	The Bible as Literature
English 355, 356, 357, 358	(3 ea.)	World Classics
English 359	(2)	The Short Story
English 361, 362, 363	(3 ea.)	Early American Literature, American Renaissance, and Later American Literature
English 366	(2)	Modern Poetry
English 367	(2)	English and American Folk Poetry
English 371, 372, 373, 374, 375	(3 ea.)	English Literature: to 1500; 1500 to 1660; 1660 to 1780; 1780 to 1832; 1832 to 1900
English 376	(2)	Twentieth Century English Literature
English 382	(3)	Shakespeare

- English 481 (3) Chaucer
 English 483 (2) Milton
 English 487 (2) Matthew Arnold
- History 110 (3) World Civilization I
 History 111 (3) World Civilization II
 History 120 (3) The United States to 1865
 History 121 (3) The United States since 1865
 History 300 (2) The Early Oriental History
 History 304 (3) Greek History and Civilization
 History 307 (3) Roman History and Civilization
 History 311 (3) History of the Middle Ages
 History 312 (3) Renaissance and Reformation
 History 323 (2) Europe in the Twentieth Century
 History 334 (3) Spain
 History 335 (3) England
 History 340 (3) Asia
 History 352 (3) History of Latin America II
 History 373 (2) American Intellectual and Cultural Growth
- Humanities 101 (3) An Introduction to the Humanities
- Journalism 101 (2) Introduction to Mass Communication
 Journalism 410 (3) History of Mass Communication
- Music 101 (3) Introduction to Music
 Music 103 (2) Survey of Music Literature
 †Music 484, 485 (3 ea.) History of Music
- Philosophy 380 (2) Survey of Philosophy
 Philosophy 480 (3) Introduction to Logic
 Philosophy 482 (2) Ethics—Plato to Dewey
 Philosophy 484 (2) Types of Religious Philosophy
- Recreation 337 (2) Philosophy of Recreation
- †French 431, 432 (3 ea.) Masterpieces of French Literature
 †French 441, 442 (3 ea.) Survey of French Literature and Culture
- †German 431, 432 (3 ea.) Masterpieces of German Literature
 †German 441, 442 (3 ea.) Survey of German Literature and Culture
- †Italian 431, 432 (3 ea.) Masterpieces of Italian Literature
- †Latin 441, 442 (3 ea.) Survey of Latin Literature and Culture
- †Portuguese 431, 432 (3 ea.) Masterpieces of Brazilian and Portuguese Literature
- †Russian 431, 432 (3 ea.) Masterpieces of Russian Literature
- †Spanish 431, 432 (3 ea.) Masterpieces of Spanish and Spanish-American Literature
- †Spanish 441, 442 (3 ea.) Survey of Spanish Literature and Culture
 †Spanish 451, 452 (3 ea.) Survey of Spanish-American Literature and Culture

Physical Education. Two semester hours or the equivalent is the requirement. One-half credit hour should be taken each semester of the freshman and sophomore year. (The transfer equivalent will be based on class hours of activity and not necessarily on credit hours.) **Exceptions:** (1) Students who are majoring in and who complete the course in engineering science together with requirements for an air science commission are not subject to the physical education requirement. (2) Engineering science students who withdraw from the air science program after two years are exempt from one semester hour of physical education. (3) Veterans with at least one year of full-time military service are exempt from the physical education requirement.

Any 100 series course in physical education will count toward satisfying General Education requirements in physical education.

Physical Science. Six semester hours are required. Students who successfully complete one of the prescribed curricula in the College of Physical and Engineering Sciences will have filled this requirement automatically. Others may choose either of the following options.

Option 1: At least one course must be selected from each of two of the following three departmental course offerings. A minimum of six semester hours is required.

- Chemistry 100 (2) Elementary College Chemistry
- Chemistry 101 (5-4) Introductory Inorganic Chemistry (for family living, nursing, and related fields)
- †Chemistry 102 (5-4) Introductory Organic Chemistry (for family living, nursing, and related fields)
- †Chemistry 105, 106 (4 ea.) General College Chemistry (designed for engineering students)
- †Chemistry 111 (4) Principles of Chemistry
- †Chemistry 112 (3) Principles of Chemistry

- Geology 101 (2) Introduction to Geology
- Geology 102 (1) Introduction to Geology Laboratory (may be taken only if accompanying Geology 101)
- Geology 103 (3) Life of the Past
- Geology 111 (4) Physical Geology
- †Geology 112 (4) Historical Geology
- Geology 306 (3) Geomorphology

- Physics 100 (3) Essentials of Physics
- Physics 105, 106 (3 ea.) Technical Physics
- Physics 127 (3) Descriptive Astronomy, "The Solar System"
- Physics 128 (3) Descriptive Astronomy, "The Stellar System"
- Physics 137 (3) Weather and Climate
- Physics 177 (3) Physics of Light and Photography
- †Physics 201, 202 (4 ea.) General College Physics
- †Physics 211, 213 (4 ea.) General Physics: Classical (designed primarily for physical science, chemistry, and engineering majors)
- †Physics 212, 214 (1 ea.) General Physics Laboratory

Option 2: Physical Science 101, 102 (3 credits each), Concepts of Physical Science. The requirement in physical science may be met by completing both courses of this sequence. They must be taken in the order indicated, and preferably the same year, although this is not mandatory. No part of the credit thus earned can be used in fulfillment of Option 1. This sequence is particularly suitable for students who have little background in science or mathematics but who wish to obtain an understanding of topics selected from all the fields of physical science. It should be of special interest to those majoring in elementary education or in non-science areas of secondary education. For a more detailed description, refer to the Physical Science inter-departmental section in the general list of courses.

Religion. Two semester hours in religion are required for each full-time registration at B.Y.U. up to a total of sixteen semester hours. Part-time students are required to complete one semester hour in religion for each eight hours carried at B.Y.U.

A. General Education requirements in religion for students entering Brigham Young University as beginning freshmen.

Freshmen: Freshmen are required to take a basic course in the gospel. Completion of one of the two following courses will satisfy this requirement.

- Theology 130, 131 The Gospel in Principle and Practice
- Theology 132, 133 Missionary Approach to the Gospel

Special sections in Theology 130, 131 will be offered appropriate to differing student backgrounds.

Sophomores: Sophomores may take any one of the following courses but must continue the course selected throughout the year.

- Bible 211, 212 Introduction to the New Testament
- History of Religion 241, 242 Latter-day Saint History
- Scripture 221, 222 Introduction to the Book of Mormon
- Theology 234, 235 Missionary Approach to the Gospel in French
- Theology 236, 237 Missionary Approach to the Gospel in German
- Theology 238, 239 Missionary Approach to the Gospel in Spanish

Juniors: Juniors who have completed the freshman and sophomore required courses will complete four semester hours of credit from any of the following courses:

- Bible 301, 302 Introduction to the Old Testament and Its Teachings
- Bible 401 Israel's Prophets
- Bible 411 Life and Teachings of Jesus
- Church Administration 361 Genealogy
- Church Administration 362 Genealogy
- Church Administration 365 Applying Gospel Principles in Scouting
- Church Administration 460 Priesthood, Church Government and Welfare
- History of Religion 441, 442 History and Doctrines of the Church
- History of Religion 451 Christian History through the 15th Century
- History of Religion 452 Christian History after the 15th Century
- History of Religion 453 World Religions
- History of Religion 454 American Religions
- Scripture 324, 325 The Doctrine and Covenants
- Scripture 327 Introduction to the Pearl of Great Price
- Scripture 421, 422 History and Teachings of the Book of Mormon
- Theology 331, 332 Analysis of L.D.S. Teachings
- Theology 438 Your Religious Problems

Seniors: Seniors who have completed the freshman and sophomore required courses will complete four semester hours of credit from any of the following courses:

- Bible 301, 302 Introduction to the Old Testament and Its Teaching
- Bible 401 Israel's Prophets
- Bible 411 Life and Teachings of Jesus
- Church Administration 361 Genealogy
- Church Administration 362 Genealogy
- Church Administration 365 Applying Gospel Principles in Scouting
- Church Administration 460 Priesthood, Church Government, and Welfare
- History of Religion 441, 442 History and Doctrines of the Church
- History of Religion 451 Christian History through the 15th Century
- History of Religion 452 Christian History after the 15th Century
- History of Religion 453 World Religions
- History of Religion 454 American Religions
- Scripture 324, 325 The Doctrine and Covenants
- Scripture 327 Introduction to the Pearl of Great Price
- Scripture 421, 422 History and Teachings of the Book of Mormon
- Theology 331, 332 Analysis of L.D.S. Teachings
- Theology 438 Your Religious Problems

B. General Education requirements in religion for students transferring to Brigham Young University from other institutions.

Transfer students commencing their first year at B.Y.U. are required to take a basic course in the gospel. Completion of one of the following courses will satisfy this requirement.

Theology 130, 131 The Gospel in Principle and Practice
Theology 132, 133 Missionary Approach to the Gospel

Special sections in Theology 130, 131 will be offered appropriate to differing student backgrounds.

Transfer students commencing their second year at B.Y.U. may take any one of the following courses but must continue the course selected throughout the year.

Bible 211, 212 Introduction to the New Testament

History of Religion 241, 242 Latter-day Saint History

Scripture 221, 222 Introduction to the Book of Mormon

Theology 234, 235 Missionary Approach to the Gospel in French

Theology 236, 237 Missionary Approach to the Gospel in German

Theology 238, 239 Missionary Approach to the Gospel in Spanish

Transfer students commencing their third and fourth years at B.Y.U. will complete two semester hours in religion for each semester of those years from the following courses:

Bible 301, 302 Introduction to the Old Testament and Its Teachings

Bible 401 Israel's Prophets

Bible 411 Life and Teachings of Jesus

Church Administration 361 Genealogy

Church Administration 362 Genealogy

Church Administration 365 Applying Gospel Principles in Scouting

Church Administration 460 Priesthood, Church Government, and Welfare

History of Religion 441, 442 History and Doctrines of the Church

History of Religion 451 Christian History through the 15th Century

History of Religion 452 Christian History after the 15th Century

History of Religion 453 World Religions

History of Religion 454 American Religions

Scripture 324, 325 The Doctrine and Covenants

Scripture 327 Introduction to the Pearl of Great Price

Scripture 421, 422 History and Teachings of the Book of Mormon

Theology 331, 332 Analysis of L.D.S. Teachings

Theology 438 Your Religious Problems

C. Devotional Assembly Credit.

See "Devotional Assemblies" in the List of Courses section of this catalog.

Social Sciences. Five semester hours with course work in two areas are required.

Agricultural Economics 101 (3) Economics and Agriculture

Anthropology 101 (3) Introductory Anthropology

Anthropology 111 (3) Cultures of the World

Economics 101 (3) Introduction to Economics

Economics 111, 112 (3, 2) Economic Principles and Problems

Economics 358 (3) International Trade and Finance

Economics 383 (2) Comparative Economic Systems

- Geography 101 (3) Introduction to Geography
 Geography 120 (3) Geography and World Affairs
 Geography 231 (3) Economic Geography
 Geography 351 (3) North America
 †Geography 441 (3) Political Geography
 Geography 460 (3) Europe
- †Human Development and Family Relationships 210 (3) Child Development
 Human Development and Family Relationships 360 (3) Achieving Success in Marriage
 †Human Development and Family Relationships 361 (2) Family Relationships
- Political Science 105 (1) Current Affairs
 Political Science 110 (3) American Government
 Political Science 111 (3) State and Local Governments
 Political Science 112 (3) Foreign Governments
 Political Science 115 (3) Introduction to International Relations
 Political Science 210 (5) The American System of Government (Honors Program)
 Political Science 212 (5) Comparative Governments and International Relations (Honors Program)
- Psychology 111 (3) General Psychology
 †Psychology 320 (2) Psychology of Childhood
 †Psychology 321 (2) Psychology of Adolescence (Either Psychology 320 or 321—not both—may apply.)
 †Psychology 322 (2) Psychology of Adult Life
 †Psychology 350 (3) Introduction to Social Psychology
- Sociology 111 (3) Introductory Sociology
 Sociology 112 (3) Social Disorganization
 Sociology 125 (2) Applied Sociology
 †Sociology 350 (3) Introduction to Social Psychology
 Sociology 389 (3) Social Aspects of Mental Health

†These courses have prerequisites.

University Fees

(Including Student Loans)

Although these figures are as accurate as possible at the time of the printing of this catalog, the University must reserve the right to change them without notice.

General Fees

Regular College and Graduate Students:

	1st Semester	2nd Semester	Total
Tuition	\$ 90	\$ 90	\$180
Building, gymnasium, student activity and health fees (required of all full-time students)	40	40	80
Total	\$130	\$130	\$260

Special College and Graduate Students:

	Tuition	General Service*	Total
Minimum fee	\$22.50	\$ 4.50	\$27.00
Four credit hours	37.50	7.50	45.00
Three credit hours	30.00	6.00	36.00
Five credit hours	45.00	9.00	54.00
Six credit hours	52.50	10.50	63.50
Seven credit hours	60.00	12.00	72.00
Eight credit hours	67.50	13.50	81.00
Nine credit hours	75.00	15.00	90.00

A student taking nine semester hours or less is considered a special student.

*The general service fee does not include health service or student activity privileges.

The charge for auditing courses is the same as taking them for credit.

Payment of Fees

All students who register will be expected to pay full tuition and fees prior to or at the time of registration.

Included in the payment of tuition is a \$10 deposit which is not refundable, even in the event that the student does not complete registration or attend school. For special students (those who do not carry ten or more hours) the non-refundable deposit will be \$5.

Late Registration Fee

Late registration fees will be assessed all regular and special students for failure to complete registration on scheduled dates. (No exception is made regardless of reason for being late.)

Failure to complete registration on scheduled dates.

1. First five regular school days following the scheduled registration date \$ 5.00
2. After the fifth day following scheduled registration date 10.00

Late fees for special students will be assessed at 50 per cent of the rate for regular students.

Any student whose check is dishonored by his bank will be charged the late fee in effect at the time the check is redeemed.

Refunds—College Students

In the event of withdrawal by a student, a refund will be made on the basis of a charge of \$10 (\$5 for special student) plus a per day charge of 1.4 per cent of the total tuition and fees paid or payable for the semester. The days charged for will be the school days beginning with the first day of the semester on which classes were held following the date on which the student registered, to the day on which the student reported his withdrawal to the Office of the Dean of Students, both days inclusive.

Any refund due a student because of withdrawal from school will be made only by check, through the mail, two weeks from the date on which the student reported his withdrawal and surrendered his receipt or activity card to the Office of the Dean of Students.

No refund will be granted to a student who is requested to withdraw for scholarship or other causes.

No refunds will be made directly to unmarried students under twenty-one years of age unless the student has the written permission of his parents or legal guardian.

Miscellaneous General Fees and Fines

Graduation fee, bachelor's degree	\$10.00
Graduation fee, master's degree	20.00
Graduate student service fee (for graduate students using University facilities without formal registration for University classes)	27.00
General College two-year terminal certificate	5.00
Late application for graduation (for those who apply after January 15 for June Commencement and after March 15 for August Commencement)	3.00
Late orientation fee (charged all freshman and sophomore students registering at the University for the first time who do not report to the campus at indicated time on the officially scheduled day for placement tests and orientation work preliminary to registration day)	3.00
Identification photo50
Change of registration fee, for each change slip presented after the first week of each semester	1.00
Change of grade fee (unless the change is the responsibility of the University)	3.00
Examination, special equivalency, per credit hour (the maximum fee in any one subject shall not exceed \$45)	7.50
Duplicate activity card	1.00

Transcript fee	1.00
(\$1.00 for first copy on every order, plus \$.50 for each additional copy)	
Automobile registration and parking fee:	
Beginning of school year	5.00
Beginning of second semester	3.00
Traffic violation fines	1.00 to 5.00
Thesis binding (4 copies)	11.00 to 13.00
Registration in Evening School. (All daytime students will be required to pay an additional fee of \$3 per credit hour for all hours carried under the Evening School Program.)	

Fees For Instruction in Music

Reservation for private music instruction, arranged by the student with the teacher concerned, is made by the semester only. Payment of the fee in full is made only at the treasurer's office at the time of registration or prior thereto.

(15 lessons per semester)

Ballou, Richard	\$55.00	McAllister, J. W.	45.00
Bos, Jacob	50.00	McMurdie, Maughan W.	45.00
Bradley, Adine	60.00	Madsen, Florence J.	55.00
Bradshaw, Merrill	50.00	Madsen, Franklin	50.00
Cundick, Robert M.	55.00	Mathews, Arminta	55.00
Curtis, Brandt	55.00	Meredith, Ned	70.00
deJong, Gerrit, Jr.	70.00	Nelson, Elmer E.	55.00
Earl, Don	60.00	Nibley, Richard	60.00
Edlefsen, Blaine	55.00	Nordgren, Quentin R.	50.00
Fitzroy, George W.	50.00	Sardoni, Lawrence	55.00
Freed, David B.	70.00	Terry, Elvis B.	50.00
Fuerstner, Carl	80.00	Wakefield, J. Homer	50.00
Goodman, Harold	55.00	Weight, Newell	60.00
Gulbrandsen, Norman	60.00	Weinzinger, Kurt	55.00
Johnson, William	45.00	Wilkes, William L.	45.00
Halliday, John R.	70.00	Woodward, Margaret	50.00
Keeler, J. J.	55.00	Woodward, Ralph	55.00
Laycock, Harold R.	60.00	All graduate assistants	45.00
Laycock, Ralph G.	60.00		

Refunds—Fees for Instructors in Music

Students who withdraw from registration for private instruction before the semester begins or during the first week of the semester will receive a refund of the total amount paid.

Students who withdraw after they have begun their private instruction will be charged 10% of the total fee, the full cost of each lesson taken or each lesson missed without notifying the teacher, and one-half the cost of the remaining lessons in the course.

Applications for refunds are made at 255 College Building.

Fees for Private Instruction in Speech

(15 lessons per semester)

Bateman, LaVar	38.00	McKinlay, Lynn A.	38.00
Clinger, Morris M.	38.00	Mecham, Merlin J.	38.00
Gledhill, Preston	38.00	Morley, Alonzo J.	38.00
Hansen, Harold I.	38.00	Rich, Owen S.	38.00
Jex, Lorin	38.00	Woodbury, Lael J.	38.00

Fee for Speech Clinic

An out-patient fee of \$40.00 per semester is charged for rehabilitation service in the speech clinic. Such service is offered regularly enrolled students without any charge.

Fees for Departmental Facilities and Services

English 15 (Remedial English for juniors)	\$15.00
Food and Nutrition 240, 340 (Menu Planning—Meal Service)	3.50
Health Education 110 (Driver Education)	10.00
Horticulture 112 (Flower Arrangement)	10.00
Human Development and Family Relationships 322	4.50
Human Development and Family Relationships 422	9.00
Instruction (Elementary) 345, 448, 449	(complete) 45.00
Instruction (Secondary) 377, 478, 479	(complete) 45.00
Nursing 211, 212 (Fundamentals Laboratory)	1.50
Physical Education 135, 136 (Skiing)	10.00
Physical Education 137 (Hiking)	5.00
Physical Education 138 (Outing Activities)	5.00
Physical Education 160, 161 (Swimming)	10.00
Physical Education 164 (Life Saving)	10.00
Physical Education 165 (Water Safety Instruction)	10.00
Physical Education 166 (Canoeing)	7.50
Physical Education 233 (Sports Fundamentals) Majors—Men	6.00
Physical Education 235, (Sports Fundamentals—Swimming) Majors—Men	10.00
Recreation 123 (Skills and Techniques for Outdoor Recreation)	12.00

Rentals

Woodwind, brass, and string instrument rental per instrument per semester	\$12.00
Harp, harpsichord, organ rental, one hour each day, per semester	7.50
Piano rental, one hour each day, per semester	7.50
Each additional hour per day, per semester	6.00
Practice room without piano, one hour each day, per semester	4.50
Each additional hour per day, per semester	3.00
Locker rent (McKay Building and Eyring Science Center):	
1 semester	1.50
2 semesters	2.50
2 semesters and summer term	3.00
Key deposit	1.00
Replacement of lost key	1.00
Locker rent (for high school students, Education Bldg.) school year	1.50

Fifty cents is returnable on return of key. If students share a locker, there is an additional 50c for each additional key issued. The 50c for each such key is refunded on return of key.

Deposits

Gymnasium towel check and padlock deposit (Maximum refund is \$2.50) ..	\$ 3.00
Botany 175 (Microtechniques)	2.00
Botany 550 (Plant Physiology)	2.00
Botany 706 (Experimental Ecology)	2.00
Botany 712 (Plant Nutrition)	2.00
Industrial education	1.00
Chemistry (Each laboratory class)	1.00
Civil Engineering 202, 203, 204	1.00
Air Science (All AFROTC students) (Fifty cents will be retained for flight insurance.)	14.00

Fees for Lab Schools

Secondary Schools

Senior high school—10th, 11th, and 12th grades	\$30.00
Junior high school—7th, 8th, 9th grades	20.00
Special students in secondary laboratory school, per unit	7.50

Secondary laboratory school students who register any time during the first semester shall pay the full year's fees. Those who register the second semester in the junior high school shall pay \$11.00 and in the senior high school \$17.00, which amounts include the late fees.

A high school student authorized to register for college courses shall pay in addition to the high school fees \$6.00 per credit hour, but the maximum charge for the high school and college courses shall not exceed that charged a college student for the same period.

Elementary Schools

Kindergarten to the sixth grade, for the full year	\$15.00
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Elementary laboratory school students who register any time during the first semester shall pay the full year's fee. Those who register during the second semester shall pay \$8.50, which includes the late fee.

College of Family Living Nursery School

Fee per child, per semester	\$30.00
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Late Fee in Laboratory Schools

A late fee of \$2.00 will be charged all junior and senior high school students who register after the first week.

A late fee of \$1.00 will be charged all elementary training school students who register after the first week.

Refunds—Laboratory Schools

A refund of \$25.00 will be made to any senior high school student who withdraws during the first or second week of the first semester. A refund of \$15.00 will be made to any student who withdraws after the second week and at or before the end of the semester, but no refund will be made thereafter.

A refund of \$15.00 will be made to any junior high school student who withdraws during the first or second week of the first semester. A refund of \$10.00 will be made to any student who withdraws after the second week and at or before the end of the first semester, but no refund will be made thereafter.

A refund of \$5.00 will be made to any elementary training school student who withdraws before the beginning of the Christmas holidays, but no refund thereafter.

No refund will be granted to a student who is requested to withdraw for scholarship or other cause.

The activity or receipt card must be surrendered when a refund is received.

Student Loans and Financial Aids

A student entering the University should have made financial arrangements to cover his school expenses and should have on hand enough funds to cover his obligations during the first semester. Limited funds are available on very favorable terms to help students remain in school when financial emergencies have arisen. Loans are not issued to students who are on probation.

Short-Term Loans. Short-term loans financed by B.Y.U. are available for emergency assistance for tuition, books, fees, and other school expenses to full-time day students who have completed at least one quarter or one semester of successful work at B.Y.U. These loans are made in small amounts for immediate requirements. Repayment usually is required within the current semester. Such loans are intended primarily for students who will have sufficient resources to carry them through the year but who may not have these resources available early enough to make the required payments for tuition, books, fees, and other school expenses.

Church Student-Loan Fund. The Church of Jesus Christ of Latter-day Saints sponsors a long-term loan program through which loans may be made to worthy full-time L.D.S. students who have completed at least one quarter or one semester of successful work at B.Y.U. and who are in critical financial need for tuition, books, fees, and other school expenses. Loans may be made each year in amounts not in excess of \$200 for freshmen, \$400 for sophomores, \$500 for juniors, \$500 for seniors, and \$500 for graduates. The maximum cumulative loan to any student cannot exceed \$2,100.

The student will be required to make full repayment in previously agreed-upon installments beginning not later than six months after discontinuing his full-time status at B.Y.U. Interest on the loan is not charged until six months after discontinuance as a full-time student at B.Y.U.

Special Student-Aid Fund. Through the generosity of interested friends of B.Y.U., contributions have been made and a limited fund is available to aid deserving students who are in critical need of small amounts of money and who are unable to make repayment.

Application. Information regarding financial aids and application forms is available in the Financial Aids Office. Each applicant will be interviewed and careful consideration given to his application.

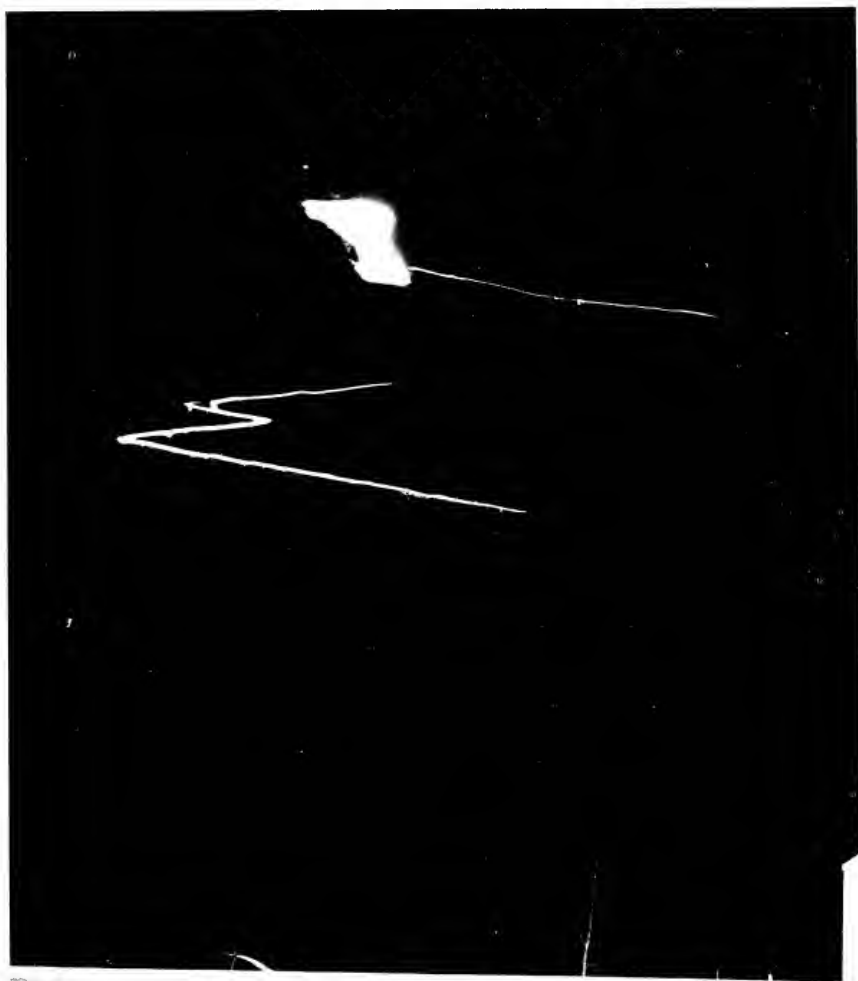
Estimated Cost of Attending B.Y.U.

The expense of a year's study at Brigham Young University is surprisingly reasonable. It will depend a great deal on how much a student can spend or wants to spend. Basic minimum costs for a two-semester school year are as follows:

Tuition	\$ 180.00
Building, student activity, health and gymnasium fees—	
\$40 per semester	80.00
Books and supplies	60.00
Board and room	595.00
Personal expenses	85.00
	<hr/>
	\$1,000.00

A nationwide study of the costs per year for tuition, board and room, and fees at private colleges indicates average spending of \$1,485 per student. This amount, which does not include personal expenses, is approximately fifty per cent above comparable costs at B.Y.U.

The estimate of \$1,000 does not provide for an automobile or clothing or transportation from distant points. The cost will obviously vary with married or single students and with young men or young women. For those doing their own house keeping, either on or off campus, the cost of board and room can be materially reduced. Some students without automobiles have spent for an entire year as little as \$750. Others with automobiles have spent as much as \$1,500. Except for those who travel back and forth to their homes each day, an automobile is unnecessary and often a hindrance to proper study.



Student Personnel Services

The Student Personnel Services offices are responsible for the welfare of students in the following areas of University life:

- Academic standards
- American Indian students adviser
- Counseling service
- Counselor for women
- Foreign students adviser
- Orientation
- Scheduling
- Student health service
- Student organizations and social life
- Student publications
- University standards

Dean of Students

The Dean of Students is director of the Student Personnel Services. As such, he is expected to coordinate the agencies at work on student problems. He initiates and recommends to the President and the University Council needed policies and procedures in student life. It is his responsibility to administer the program recommended or approved by the President in the various areas of the Student Personnel Services.

Academic Standards

Students at Brigham Young University are expected to obtain the following minimum grade-point average for their particular class in school:

Freshmen (students who have accumulated 31 semester hours of credit or less) are required to maintain a 1.75 (C-) grade average in order to be considered in good academic standing.

Sophomores, juniors, and seniors are required to maintain a 2.00 (C) grade average on all work beyond the first 31 semester hours of credit.

A student receiving a degree from Brigham Young University must maintain a B.Y.U. cumulative grade-point average of 2.0 on all academic work taken beyond September 1960 before he will be allowed to register for the final semester of work leading to a degree.

Grade-point averages are computed on this basis: "A" equals 4, "B" equals 3, "C" equals 2, "D" equals 1, and "E", "WE", and "UW" each equal 0.

Categories of academic status are as follows:

Warning

A student whose B.Y.U. cumulative grade-point average is above 2.00 (C) but whose grade-point average for the last semester was below the minimum required (1.75 for freshman and 2.00 thereafter) will receive academic warning. A student whose B.Y.U. cumulative grade-point average is below 2.00 and whose grade-point average for the last semester was above the minimum required, will receive academic warning.

Probation

A student whose B.Y.U. record fails to meet the minimum academic require-

ment and whose record shows a shortage of grade points will be placed on academic probation. Probationary students are limited as follows:

1. Allowed to enroll for a maximum of 12 semester hours.
2. Not eligible for B.Y.U. scholarships, awards, grants, or student loans.
3. Restrained from participating in any activity such as student plays, musical programs, intercollegiate athletics, debate teams, cheer leaders, studentbody officers, etc., in which they represent B.Y.U. before the public.

Suspension

Students will be suspended from the University, if at the end of any probationary semester their cumulative record shows a shortage of 12 grade points from that which is required (1.75 for the first 31 semester hours and 2.00 for all remaining hours).

A student, whether on probation or not, will be subject to suspension if the Academic Standards Committee at any time determines that he is deficient in his academic achievement.

Students transferring or readmitted to B.Y.U. on academic warning or academic probation will be subject to the same rules as students currently enrolled.

American Indian Students Adviser

American Indian students may receive special assistance through the Indian Education Program of the University. Such assistance includes both close personal advisement and financial aid through the Indian Education Award, administered directly by this office. Information and application forms may be obtained by contacting the adviser to Indian students.

Counseling Service

The administrative officers at Brigham Young University are well aware that new students are faced with many problems as they begin their college life. The primary function of the Counseling Service is to help normal students make realistic decisions regarding their college careers. All entering students are expected to make an appointment with a counselor so that they may obtain their professional assistance. The Counseling Service provides the following services for the University: (1) counseling—educational, vocational, and other personal problems; (2) psychiatric; (3) testing; (4) occupational information; and (5) help with study and reading skills. The Counseling Service also coordinates the University tutoring program.

Counseling. The counselors offer assistance to each student, helping him make wise decisions in educational, vocational, and personal problems. The mature student will accept responsibility for the decisions arrived at in such counseling sessions.

Psychiatric Service. Limited psychiatric service is available for students with serious emotional problems. A psychiatric team composed of a psychiatrist, a clinical psychologist, and a psychiatric social worker is available to make evaluations and recommendations concerning treatment. Limited psychiatric treatment is available for students who can be treated in a university setting. Such treatment is not available for all students, and referrals are often made to private agencies either in Utah or in the students' home towns. As is the case of all other counseling done in the Counseling Service, complete confidentiality is maintained.

Testing Services. Tests of achievement, ability, interest, and adjustment are given to all new lower division students. The data from these tests are used as a basis for counseling in educational, occupational, and personal problems. Although the basic tests are given to all new lower division students, upper division and graduate students may avail themselves of the tests. The testing service provides psychological test data for the use of counselors and registration ad-

visers, placement tests for various academic groups at the University, and assistance in the preparation, administration, and scoring of subject-matter as requested by various departments in the University.

Occupational Information Services. A comprehensive, current collection of essential occupational information is maintained in the Counseling Service library. Current catalogs of the major universities and technical schools are also on file. These materials are available to all students seeking information about particular vocational opportunities or information about employment in general.

Study and Reading Skills. A study skills laboratory is maintained for students to use for improving their study habits. Remedial reading groups are formed each semester to give assistance to students who have difficulty reading college materials. Emphasis in the reading groups is placed on improving the student's general reading ability, not on speed alone. Application for membership in these groups is initiated by contacting the Counseling Service receptionist. Reading materials and equipment are also available to help the student increase his ability to read. (English 20 and Psychology 10 provide additional help, and a non-credit class in developmental reading is offered each semester by Adult Education and Extension Services.)

Tutoring Service. Students who need help in certain areas, because of factors such as inadequate previous preparation for a course or interruption of course work because of illness, can receive special help from the tutoring service. The student who feels he might profit from special tutoring may go to the Counseling Service, where he is helped in making contact with the tutor. Fees range from \$.50 per hour for a student in a small group to \$1.50 per hour for individual tutoring. Limited free tutoring is offered by members of sophomore honorary societies.

Counselor for Women

Of special assistance to women students is a counselor for women. She is a member of the Student Personnel Services staff and the Counseling Service staff. The counselor for women is available throughout each day to assist women students in solving personal problems.

Foreign Students Adviser

Services of the foreign students adviser are available to all students from countries outside of the United States. Alien students coming to the University should report first to his office where they are expected to clear with him.

Orientation

The orientation program of Brigham Young University is designed to assist new students to break down barriers that may exist between opportunities that the University offers and the skill and ability of the student to make the most of these opportunities.

The processes employed in achieving this objective are:

- a. To assist the student to feel that he belongs, that he is a member of an institution interested in him as an individual, that the University is also interested in his reaction to his total college environment religiously, socially, and academically, and that his relationships with his fellow students will be satisfactory.
- b. To help the student become more receptive to his learning experience. Discussion groups are employed as a tool to develop healthy attitudes toward the tools of learning and toward the academic courses.

Religious Opportunities

Brigham Young University students have excellent opportunities for participation in religious activities. Among the means available are the following:

Brigham Young University Stakes. Brigham Young University stakes, composed of twenty-eight wards and organized specifically for students, provide maximum opportunity for active participation in the program of the Church. Spiritual growth and the development of a strong testimony are goals fostered by the stake and ward organizations, whose programs are closely integrated at all levels with that of the University.

All single students living away from home establish their membership records in one of the wards of the stakes. Married students who attend the University may elect to have their membership records either in a ward of one of the B.Y.U. stakes or in a nearby ward in which they reside. Membership records of students remain in the B.Y.U. stakes until they terminate their schooling at the "Y".

Religious Organizations. In addition to the twenty-eight wards on campus, several organizations are primarily religious in nature but also are social and service groups. Membership in some of these organizations is limited to returned missionaries while others are open to any interested student.

Devotional Assemblies. Devotional assemblies, held each Wednesday, enable students to hear messages of spiritual power and depth from carefully chosen Church leaders. It is contemplated that during each year all members of the First Presidency and of the Quorum of the Twelve Apostles will address the student body in the Wednesday devotional assemblies.

Scheduling

The Dean of Students Office acts in an administrative capacity in the scheduling and coordinating of all on-campus activities. No event can be conducted unless it has been scheduled through proper channels.

Student Health Service

The Howard S. McDonald Student Health Center on University Hill accommodates the health services, comprised of a large out-patient clinic and a small in-patient unit for cases requiring bed care. The center functions 24 hours daily, 7 days a week during school terms and is available to any regularly enrolled full-time student whose fees include these services for the semester in which he is registered. Summer students are included. Medical care to all eligible students is limited to the facilities and personnel in the health center.

The following services are provided without extra charge:

1. An initial complete physical examination, required of all entering students, to be performed at the health center and to include screening chest X-ray, audiometry, and urinalysis. This examination is also mandatory for students re-entering after a two-year absence.
2. Consultation with general physicians and specialists, by appointment, in the health center during regular clinic hours, 8:30 a.m. to 4:30 p.m. This includes a specialty clinic in orthopedics, general surgery, gynecology, internal medicine, and chiropody.
3. First-aid treatment any time during the 24 hours of each day.
4. Immunizations as required for small pox, diphtheria, or typhoid.
5. Physical therapy as recommended by a health center physician.
6. Routine laboratory tests.
7. Seven days of bed care in any one semester in the health center, as recommended by a health center physician, after which a minimum charge

- of \$2.50 per day is made. This includes post-surgical convalescence, the private physician continuing in attendance.
8. Certain procedures of public health importance, such as tuberculin tests, follow-up studies in infectious diseases, etc.
 9. Within the limits of its personnel and facilities, and at the discretion of the director, the treatment of chronic disease suffered by students.

Some services require an additional charge and are supplied to the student at cost. These are:

1. Meals while a patient is in the center.
2. Drugs on prescription of a health center physician.
3. Special diagnostic laboratory tests.
4. Special immunizations, i.e., poliomyelitis, influenza, etc.
5. X-rays other than "screening" films. The health center regularly employs the technical personnel to take and interpret the X-ray films. The student pays only the cost of materials.
6. After-hour calls by a physician in the clinic. The student pays \$2.00, the health center \$3.00 for each call. For house calls, the charges are double, both for student and the health center.
7. Rental of crutches.
8. Immediate notification of parents or guardian by the health center when a student is taken acutely ill.

Services not available:

1. Major surgery or off-campus hospitalization, except in instances where an injury is sustained while the student is representing the University through an official assignment.
2. Dental service.
3. Obstetric services.
4. Eye refractions, glasses, prostheses, hearing aids, etc.
5. Ambulance service.

Student Health and Accident Insurance Program

To complement the services of the Student Health Center, Continental Casualty Company provides a health insurance program which is available to all full-time students. This voluntary program is fully endorsed by the University and provides for a wide range of medical services at minimal costs. All students not otherwise protected by a health insurance plan are urged to accept this excellent plan specifically designed for our students. Full details are available from the health center.

Student Organizations and Social Life

Student activities are organized in such a way as to offer maximum opportunity for training in leadership and self-government and to provide a well-balanced program of individual and group development. Numerous student organizations have been set up to effectively realize such an objective. All student organizations on the campus conduct their affairs in accordance with a basic philosophy designed "to provide for a broad program of social, cultural, and recreational opportunities in which students are encouraged to participate." Membership is open to students who qualify and remain qualified according to the rules and regulations set up by each organization. All students are urged to become affiliated with some group and thereby derive the benefits that only group experiences can bring. In order to coordinate organizational activity, to eliminate duplication of effort, and to lend continuity from year to year, supervision of student organizations is provided by the Dean of Students through the office of the coordinator of the student organizations.

Associated Students. Associated Students is an organization composed of all students who attend Brigham Young University and is presided over by officers elected by them. It seeks to develop interest on the part of every student in those activities which contribute to a more democratic "Y" spirit and to pro-

vide opportunities for all students to participate in a well-rounded program of out-of-class activities. However, no student is allowed to participate in out-of-class activity if he is either on academic or disciplinary probation or carrying less than a ten-hour academic class load. Through this organization, student traditions are kept alive and all interclass and intercollegiate activities are encouraged and unified. Social, forensic, dramatic, and musical activities are fostered under its management, and through it the students publish the Daily Universe, the Wye Magazine, the student directory, and the Banyan. The organization also functions as an auxiliary of University discipline through the activities of the Honor Council and the Inter-Organizational Council court system.

Associated Men. All men students registered are members of Associated Men. This organization is designed to promote specific interests of "Y" men and to foster a wholesome atmosphere on the campus. The executive council, consisting of three student leaders and a faculty counselor, supplemented by the twelve members of the "Y" Men's Council, forms the governing group.

Associated Women. Associated Women is an organization comprising all women registered in the University. Its purpose is to aid and foster all women's activities. The organization, advised by the counselor for women, is a member of the Western Division of the National Organization of Associated Women Students, which includes most of the universities and colleges in the United States.

Class Organizations. Members of the four classes and the Graduate School are organized for the purpose of developing common interests and class spirit as each class proceeds through the University and into the Alumni Association. Meetings of the classes are held periodically, with a limited number of social functions planned by class officers.

Executive Council. The Executive Council consists of the president, vice-president of social activities, vice-president of student relations, vice-president of cultural activities, and vice-president of finance.

Student Senate. The Student Senate is a legislative body consisting of representatives from the entire student body and representatives from the classes. The senate considers studentbody problems and initiates action for the welfare of the student body.

Inter-Organization Council. The Inter-Organization Council is an organization composed of representatives from student organizations to help govern organizational activities. It derives its authority from the Executive Council.

Honor Council. The Honor Council is a group of sixteen students appointed by the student senate. It functions as a counseling body with sub-committees to promote the honor system to which all students are expected to adhere.

Geographical Organizations

Geographical clubs are organized to further social enjoyment and acquaintance among students from the same localities. They are particularly helpful to students during the early semesters of school, before these students have found their way into the other social activities of the campus. Such clubs also are helpful in maintaining a close bond of interest between the student and his home.

Professional and Departmental Organizations

The University encourages organizations which have the specific purpose of bringing together persons of similar scholastic and professional interests and of rendering their work more pleasurable and profitable. Each group fosters the activities of the department to which it is allied. Eligibility requirements are those of departmental affiliation and general scholarship as determined by the individual organizations. Fees are reduced to a minimum. Each organization has a faculty sponsor.

Service Organizations

There are on campus several organizations, both for men and women, the primary function of which is to render service to the University. Eligibility requirements are established by each organization, and each has a faculty sponsor.

Social Units

Within the program of student organization, provision is made for men's and women's social units. Activities in these organizations are provided in accordance with the basic philosophy of student organizations and are established on the basis of common social interests, friendship, congeniality, and cooperativeness. These organizations furnish numerous opportunities for student participation both individually and in groups. The competitive spirit is fostered in such activities as the homecoming parade, the song fest, and the snow carnival.

Student Assemblies

Throughout the academic year a student assembly is held each Friday at 10:00 a.m. as a part of the regular program of the University. The Friday hour set aside for outstanding student entertainment is an important part of student life and should likewise be a definite part of the student's schedule.

Student Publications

Under the supervision of the faculty adviser to student publications, four publications are sponsored in order to serve the University and its students and to give opportunities for student expression and development through publications activities.

Newspaper. The Brigham Young Daily Universe is published daily during the first and second semesters and semi-weekly during the summer session. Opportunity is given students for valuable experience in news writing, editing, photography, photo-engraving, and advertising.

Yearbook. Named for the oriental tree which symbolizes the widening friendships formed on campus, the Banyan is the students' photographic and artistic record of each year's activities. Portraits of all students and faculty members are included.

Magazine. The Wye, published each semester, contains student-written poetry, stories, and non-fiction. Several awards are given for the best art work, photography, and writing published.

Directory. An annual directory of Brigham Young University students and faculty is published during the first semester. Compilation of the directory material and sale of copies are sponsored by White Key, women's honorary service organization.

University Standards

The maintenance of standards of honor and integrity, of graciousness in personal behavior, of Christian ideals in everyday living, of a high standard of morality, and of abstinence from alcohol and tobacco is required of every student. A student's having improper associates or visiting places of questionable repute will not be tolerated.

Any pronouncement of disciplinary measures made by the President of the University becomes a part of these regulations. Violations of regulations may make the offender liable to suspension or expulsion from the University.

Placement Bureau

The Placement Bureau, located in the east end of the Herald R. Clark Student Service Center, exists on the campus for the purpose of assisting graduating students and alumni to find desirable positions in their fields in business, industry, government, and education. This office works in close cooperation with deans and department chairmen.

The placement service includes a placement library where interested students may find books, articles, magazines, and brochures that will acquaint them with companies in which they may be interested and also books and pamphlets which will give advice on such matters as how to conduct themselves in interviews, how to write effective letters of application, how to find employment, etc.

All students are urged to register with the Placement Bureau early in the school year in which they will graduate to enable that office to give the most effective possible assistance in finding employment for each graduate.

Student Employment

In the Placement Bureau, assistance is given to students in finding part-time employment. This includes help not only in placing students in positions on the University campus but also in finding part-time employment off campus and in finding work for board and room.

Students are encouraged not to attempt to earn their entire way through school. Such a program leaves little time for academic work (see scholarships). It is important to note that there is a maximum limit on the number of hours which a student may work on campus.

Students are urged to register with the Placement Bureau as soon as possible after they arrive in Provo and are available for work. Factors which weigh most heavily in deciding who shall receive leads for jobs are need, hours available, and possession of skills required by employers. Inasmuch as the number of students seeking part-time work is very high, those whose need is great are requested to report regularly at the Placement Bureau after filing their initial applications.

Students from foreign countries are required to obtain a work permit before they may take employment. Such students may receive assistance in obtaining the necessary permit from the foreign students adviser. Students under eighteen who succeed in locating employment are required to obtain a work permit. Pertinent instructions are available in the Placement Bureau.



Student Housing

Learning to live harmoniously with other people under the right kind of living conditions plays a vital part in a college education. Students living in groups, working, studying, and enjoying recreation together gain much from each other. The conversations, good fellowship, and activities experienced in group living contribute to a person's whole development. Participation in democratic, self-governing living activities brings about a phase of education which can be gained in no other way.

The Office of Student Housing, under the director of student housing, is established to assist students with their housing needs. It is located in the Administration Building. All inquiries or administrative problems relating to housing needs should be referred to this office.

Campus Housing

Residence Hall Supervision

Campus housing is organized into two areas: namely, men's and women's. Each area is under the supervision of a person with professional training and experience for this type of work. Under these individuals, each residence hall is directed by a competent adult head resident who lives in the hall. (This may be a couple or a single woman.) Assisting each head resident are several senior residents—mature, advanced students—who live with the student groups. This gives each student a very close contact with the residence hall staff. Each student is known personally by the staff and has someone immediately available to assist him with normal student problems. The residence hall staff carries out a residence hall program designed to provide each student with experiences in democratic self-government, development in acceptance of responsibilities that go with maturity and independence, and assistance in learning the art and science of human relationships in working and living with others. The staff assists the student to achieve a sense of belonging, and to develop social competence through planned social and recreational programs. Head residents are available for general counseling. They carry out the residence hall program in cooperation with other University academic services.

Applications

A student who plans to enroll at the University and live in a University residence hall should make inquiry to the Office of Student Housing at the earliest possible date. A housing application form will be sent to each inquiring student. A \$10.00 application fee is required and should be enclosed with the completed application form when it is returned to the Office of Student Housing. A residence hall assignment and appropriate "agreement forms" are prepared on a basis of the date of receipt of the application form by the Housing Office and are mailed in the late spring and early summer.

Acceptance to University

The validating of any campus housing reservation is contingent upon the student's official acceptance and admission to the University.

Rental Agreements

A student planning to live in campus housing may expect to sign a rental agreement for the accommodations he will occupy. He should be prepared to live by the terms of this agreement once he has signed and returned it to the Office of Student Housing. Misunderstanding and financial loss can be avoided by a

student if he will read and familiarize himself with the terms of the agreement before signing. All campus accommodations are available on an annual basis only.

Time of Arrival

Residence halls are not open to a student prior to the announced opening date, usually the day before freshman orientation. The University does not advise a student who is going to live in campus housing to arrive before that date. It is unwise for a student with nothing to do to live in a hotel or motel where there is no University supervision.

Residence Halls for Women

Housing for 1,548 women is provided in 24 Heritage Halls. These are apartment-type buildings. Each apartment consists of a combination kitchen-dining-study room arrangement, three bedrooms, and a bath. In addition, there are large living rooms, a recreation room, head resident apartment, and laundry and storage facilities in each building. Six girls occupy an apartment and live cooperatively, preparing their own meals. The apartments are completely furnished except for bedding, kitchen utensils, and dishes. The facilities are excellent and offer a high standard of living for college students. The approximate annual rate for these accommodations is \$250.00. Food is purchased cooperatively by the residents of each apartment.

Help in the homemaking experiences of budgeting, buying, meal planning, and the selection, care, and construction of clothing is available from specialists who are assigned to Heritage Halls. In addition, a specialist is available to assist students in planning social activities, developing recreational skills, and learning wise use of leisure time.

The University operates four residence halls for women where board and room are provided. These four halls, Amanda Knight Hall, Knight-Mangum Hall, Budge Hall, and Merrill Hall, house 880 students. The halls, completely furnished, provide every modern convenience, including well-planned food service. A trained head resident lives in each hall. The approximate annual rate for these accommodations is \$595.00.

Each woman student who desires to live on campus should consider carefully the type of accommodations desired in view of her economic needs, time available for activities within her housing situation, and type of experience desired. Agreements are made for the academic year, and moving from one type of accommodation to another during the year is difficult to arrange.

Residence Halls for Men

Board and room services for 72 men are provided in Allen Hall which is located one block from the campus. It provides sleeping rooms, dining hall, living and social room, study room, head resident apartment, and adequate laundry and storage rooms.

Board and room services for 1170 men are provided in six new buildings known as Helaman Halls. These buildings form a beautifully designed residence hall development. There are five residence hall buildings conveniently grouped around an attractively planned and developed central building. Each residence hall accommodates 234 students, with two men sharing each bedroom. In addition, living rooms, study rooms, central shower areas, recreational rooms, adequate laundry and storage facilities, and a head resident apartment are found in each building. These halls provide some of the best student living experiences offered on any university campus. The central building features spacious dining rooms and a snack bar, providing the excellent food service for which B.Y.U. is noted. This building also contains beautiful living rooms, recreational areas, administrative offices, and other management facilities such as mail rooms and laundry and dry cleaning pick up stations. The approximate annual rate for these accommodations is \$595.00.

Graduate Homes for Men

Board and room services for a limited number of single graduate men are available in large University homes used exclusively for graduate students. They are adequately equipped and provide for the specialized needs of the graduate student. The approximate annual rate for these accommodations is \$545.00.

Apartments and Homes for Married Students

Family accommodations for 260 married couples and their children are provided in housing developments known as Wymount Village and Wyview Village.

The Wymount Village consists of 110 apartments (efficiency, one-bedroom and two-bedroom units). These buildings were acquired from the federal government and moved to their present site following World War II. The monthly rental rates approximate \$38.50 for the efficiency units, \$41.00 for the one-bedroom units, and \$43.50 for the two-bedroom units. These rates include utilities.

The Wyview Village consists of 150 prefabricated homes purchased in 1956 from a federal government air base and moved to a site adjacent to the campus. There are 100 two-bedroom and 50 three-bedroom homes. The monthly rental rates approximate \$50.00 for the two-bedroom and \$55.00 for the three-bedroom homes. Each family, in addition, pays for its own electricity.

All units in married-students' housing are assigned according to family size. There is a short waiting period for applicants of these units to receive word of vacancies.

Note: For the married family who wishes to live off campus the Residential Housing Office can assist in finding a suitable apartment in the Provo community. Approximately 1,000 apartment units are available to married couples.

Residential Housing

All students living off campus are required to live in University-approved housing. The Residential Housing Department of the Office of Student Housing maintains up-to-date listings of approved residences. This office is established to assist students upon their arrival in Provo to find suitable quarters if they desire to reside in the community.

Residential housing consists of apartments, rooms with kitchen privileges, board and room, and sleeping rooms located in homes in the community. These facilities are inspected by University representatives to see that they comply with established standards before they are approved for student occupancy. Through the cooperative efforts of landlords and the University, constructive action has been taken to raise the standard of student housing throughout the community. Before making any commitments for residential housing, students should make sure that the place in which they contemplate living has been approved by the University.

Rates

Rates for residential housing accommodations vary with the type of service provided, and consequently only a general indication can be given here. Sleeping rooms rent from \$15.00 to \$25.00 a month. Apartment accommodations run from \$17.00 to \$25.00 per month per student. Board and room is available at the rate of \$55.00 to \$65.00 a month. Apartments for married students can be obtained at a rate of approximately \$45.00 to \$70.00 per month.

Special Academic Programs

Honors Program

Robert K. Thomas, Director (308 McKay)

The Honors Program at Brigham Young University is a University-wide effort to provide special opportunities and direction for superior students. In supporting such a program the administration and faculty of B.Y.U. have sought to integrate honors work in the various colleges and make possible a more flexible approach to the complete education of its best students.

Objectives

Honors work endeavors to discover the able student and stimulate him to make the most of his ability. Among the specific ways in which superior students may be challenged are the following:

1. Waiving of General Education requirements makes possible the most effective and flexible use of a student's preparation.
2. Cutting across departmental and subject area lines, where feasible, provides for broader, integrated learning.
3. Letting students take any course for which they are reasonably well prepared allows for both acceleration and greater depth in a candidate's major field.
4. Independent research and experimentation help a student to set goals which reflect his own interests and abilities.

In general, the Honors Program hopes to enrich, rather than shorten, the superior student's academic experience.

Organization and Administration

The Honors Program is supervised by an executive committee and a director. Advisers, who guide the work of not more than ten honors candidates, are nominated by their departments in consultation with the executive committee. The student is expected to maintain close contact with his adviser throughout the four years, and the adviser reports periodically to the executive committee and the director as to the student's progress. It is hoped that a close, working relationship will develop between the adviser and candidate, for this in itself can be an integral part of the student's education.

Selection of Candidates

The Honors Program hopes to serve as many students as possible. Practically, however, honors work must be limited to those who show unmistakable promise on the basis of interviews, tests, and performance.

Most candidates will request admission to the program by writing the director during their senior year in high school. Others may be recommended by their teachers or counselors and will be sent application forms on the basis of such recommendations.

Those currently attending B.Y.U., or transfer students, should ask to have a copy of their transcript sent directly to the executive committee at the time of application. A student may enter the program at any time, but normally he would not do so after the first semester of his junior year. Beginning with the school year 1961-62, all prospective candidates will be expected to provide the executive committee with their scores on either the ACT (American College

Testing Program) or College Board examinations. Most high schools have information on file as to when these tests will be given in a particular school or area. If, however, it is impossible for a candidate to take either of these before the summer preceding his enrollment at B.Y.U., he should write for special instructions.

Curriculum of the Program

Since specific General Education requirements are waived for honors candidates, the student, in consultation with his adviser, creates a course of study tailored to his needs but including a broad coverage in the areas of General Education.

Instructors for honors sections are carefully selected, and the size of these sections is kept small enough to allow the teacher to give personal direction to each student. Candidates are assured of getting the classes they need and are provided with library privileges equal to those enjoyed by graduate students.

The student may declare a major at any time but will be urged to do so by the end of his sophomore year. When the major is declared, if the student is not being guided by an adviser from the area of his major, he is reassigned; the adviser and student then design a program for major studies. The Honors Program maintains interest in and supervision of the student's over-all work, but authority for the major requirements continues to rest exclusively in the department and college. The adviser represents both department and the Honors Program to the student. Interdepartmental and intercollegiate majors are allowed—even encouraged—and will be handled by the director of the program in consultation with the departments involved.

Honors will be granted on the result of a special comprehensive examination to be given all honors candidates at the end of the senior year. The honors candidate will be graduated by the college of his major upon nomination of the executive committee of the Honors Program. Three degrees of graduation are allowed: (1) no honors, (2) honors, and (3) high honors.

Additional information regarding the Honors Program at B.Y.U. will be available in a bulletin to be issued during the spring of 1961. If you would like this bulletin forwarded to you, please write to the Office of Public Relations and ask that a copy be sent you as soon as it is ready. For answers to particular problems write to the Director of Honors Program, 308 McKay Building, Brigham Young University, Provo, Utah.

Skills Improvement Service

Lynn A. Ravsten, Director

Lower division students at Brigham Young University present a picture of varied abilities, aptitudes, and interests. Many students who come to this University are not well equipped to do the academic work required of them. This is particularly true of students admitted on academic warning. The purpose of the Skills Improvement Service of General College is to develop abilities and aptitudes which will allow students admitted on academic warning to compete effectively with other students at the University. To do so they will have to learn to read, write, speak, think, and study effectively.

The Skills Improvement Service assists students under its jurisdiction through special classes and individual advisement and counseling. Specific policies and procedures which have a bearing on the students admitted on academic warning are listed below.

1. All students, freshman or transfer, admitted on academic warning are required to enroll in General College regardless of their class standing at the time of admission.
2. Students admitted on academic warning will be limited to a total of twelve (12) hours of work, including both credit and non-credit courses.

3. Students admitted on academic warning will be given special diagnostic tests to determine the nature and extent of their academic handicap.
4. Students admitted on academic warning are required to take Psychology 10, Effective Study, during the first semester they attend the University.
5. Students under the jurisdiction of the Skills Improvement Service will be advised by specially selected advisers. The advisers have accepted the responsibility of meeting these probationary students at frequent, regular intervals in an effort to help them work out the specific adjustment problems which arise during the first semester here at the University. If students do not achieve the standards of regular students, they will continue to be advised by their adviser in the Skills Improvement Service.
6. Once these students have attained the grade-point average of their class, they will be taken off probation and will be allowed to register as they desire in any college or department of the University. They must, however, meet the standards required for admission by a given department and college.

Listed below are the classes currently being offered by the University as remedial courses. Enrollment in these courses is not restricted to students on academic probation, with the exception of Psychology 10 during the first semester of each year. Many students can profit academically by availing themselves of these classes and are encouraged to do so in an effort to meet their own study skills and communicative deficiencies.

English 10. Preparatory English
English 15. Remedial English for Juniors
English 55 and 56. English for Bilingual Students
Psychology 10. Effective Study
Speech 60. Remedial Speech
Mathematics 51. Plane Geometry

Remedial and Developmental Reading

The reading clinic is administered by the counseling service of the University. The students enroll for reading improvement directly through the counseling service.

Institute of Government Service

Stewart L. Grow, Director (356 McKay)

The Institute of Government Service will undertake its first programs with the start of the 1961-62 academic year. It will offer training leading to a master's degree for students planning careers of public service. Specialized work will be given for those seeking to enter the federal, state or local governments. Various specialties, such as budget and fiscal, method and organization, personnel, city management, public works administration and planning will be offered. Training will also be offered for those seeking careers in the U.S. Foreign Service, and in the administration of other programs in foreign countries.

Each student will be interviewed to determine his goals and a program which will aid him to achieve those goals outlined. The program will generally be of an interdepartmental nature, partaking of the best offerings of any department of the University.

For example, if a student wishes to prepare for the U.S. Foreign Service his program would be outlined to include training in political science, history, economics, and languages. A student planning a career in finance administration on the local government level would be broadly trained in municipal accounting, budget preparation and analysis, organization and management analysis, principles of public administration, economics, and government finance.

Each student will be required to have adequate background preparation prior to admission to degree-seeking status which will be determined by review of his completed preparation. A wide range of background preparation may

qualify students for admission to the program. For example, political science, business administration, sociology, history, languages, economics, and engineering, etc., would all be acceptable. Background shortages can be made up.

Details of the program may be secured by writing to Director of Institute of Government Service, 356 McKay Building, Brigham Young University. Applications for admission should be sent to the dean of the Graduate School, Brigham Young University.

Lyceums and Forums

Almost since its founding, Brigham Young University has been bringing to its students distinguished men and women in arts and letters. The lyceums are evening programs of cultural value. Forum assemblies, held each Monday morning, feature speakers and artists who can offer students a better understanding of our contemporary civilization. During the 1960 Summer Session and the 1960-61 regular school year, the following were scheduled to appear on the lyceum or the forum series:

Stewart Alsop	Editor
Thomas H. Carroll	President-Elect, George Washington University
Stanley Chapple (summer)	Lecturer
Marquis Childs	Washington Columnist
Sir Charles Arden-Clark	First Governor-General of Ghana
Peter Commandrus	Physician, Secretary-General of MEDICO
Brandt Curtis (summer)	Acting Director, Opera Workshop
Henry Aldous Dixon	Member of Congress (Utah)
Jean Fenn, two appearances (summer)	Soprano
Christian Ferras	Violinist
Carl Feurstner, two appearances (summer)	Pianist
Fernando Germani	Organist
Boris Goldovsky	Metropolitan Opera Commentator
Marcel Grandjany, two appearances (summer)	Harpist
Felix Greene	Author
Marion L. Jacobs (summer)	Clinic Band Director
Byron Janis	Pianist
William Kelley	Editor, Critic, Novelist
Edward (Ted) Kennedy	Lawyer
Robert Klotman (summer)	Clinic Orchestra Conductor
Florence Kopleff	Contralto
Ralph G. Laycock (summer)	Clinic Band Conductor
Mary MacKenzie, two appearances (summer)	Mezzo-Soprano
Raymond Manton, two appearances (summer)	Tenor
James M. Mason (summer)	Clinic Band Director
Frances McCann, two appearances (summer)	Soprano
Admiral Ben Moreell	Former President, Jones and Laughlin Steel Corporation
Malcolm Muggeridge	Editor, Author
Dr. Alton Oschsner	Chest Surgeon
Vance Packard	Author
Parrenin Quartet, five concerts (summer)	Jacques Parrenin, Marcél Charpentier, Michel Wales, Pierre Pénassou
Jan Peerce	Metropolitan Opera Tenor
André Previn	Composer, Conductor, Pianist, Arranger
Leontyne Price	Soprano
Basil Rathbone	Dramatist

Will Rogers, Jr.	Former Member of Congress (California)
Josette and Yvette Roman	Duo Pianists
Antone K. Romney	Lecturer
Anna Russell, two appearances	Concert Comedienne
Harrison Salisbury	Reporter, Author
Kenyon Scudder	Criminologist
William L. Shirer	Author, Foreign Correspondent
Karl Staheli (summer)	Clinic Band Conductor
Edward Teller	Nuclear Physicist
Utah Symphony Orchestra, two performances	Conducted by Maurice Abravanel
Richard M. Weaver	Professor of English, University of Chicago
Newell B. Weight (summer)	Clinic Choral Conductor
William C. Weston	Biologist, Harvard University
Lawrence R. Winchell (summer)	Lecturer
Lloyd Wright	Former President, American Bar Association



Auxiliary Services

The University has a number of business units which operate as part of the services provided for students and faculty. As a matter of general policy, these business units operate on a self-sustaining basis. They include functions such as housing, feeding, printing, motion picture production, purchasing, warehousing, receiving, mail service, creamery products, laundering, book store, and farm management.

Student Housing

The business and financial aspects of Student Housing, on campus and in the Provo community, are supervised from the Office of Student Housing. For details concerning these services, including student housing rates, refer to the section of this catalog titled "Student Housing."

Food Service

Regular meal service is provided for students at five different cafeterias on the campus. Four of these are operated as part of the board and room service of residence halls. It is possible for students living off campus to buy meal tickets at reduced prices and eat in three of these places. The fifth cafeteria is in the Joseph Smith Building, where meals are served at reasonable prices on a cash basis.

The University operates three snack bars, one in the Joseph Smith Building, a second in the George Albert Smith Fieldhouse, and a third in the Helaman Halls Cannon Center. Food is available in them throughout the day. Food may be secured through vending machines located throughout the campus. Costs of meals and food service are kept as low as possible, consistent with sound operating management.

The University also operates a creamery where milk, ice cream, and other dairy products may be purchased by students and faculty at very favorable prices. Students preparing their own meals find this service both desirable and economical.

Photo Studio

Located in the Eyring Science Center is a modern, fully equipped portrait and commercial photo studio, established to provide economical photographic service to students, faculty, and administrative departments. The best in modern production equipment is utilized to make possible efficient and high quality photographic workmanship. This studio has served the campus for twenty-five years. Any student or faculty member may take advantage of the services offered by this up-to-date department.

Post Office

The Postage and Mailing Department is located in the Student Service Center. Its function is to pick up and deliver all of the inter-campus mail, and to pick up and meter all of the outgoing U.S. mail. Two deliveries and three pickups are made each day on the campus.

Directory service is available for all mail addressed to Brigham Young Uni-

versity that does not indicate the department for which it is intended. This is true also for mail sent to students c/o Brigham Young University.

A U.S. Post Office Branch (Station 1, Provo) is located in the Student Service Center, where students can pick up and send mail. Individual rental boxes are available for student use.

Purchasing Department

The Purchasing Department is located in Room 272 of the Student Service Center.

Its services are designed to relieve faculty, other members of the University staff, and the Associated Students from certain duties of procurement. Through this department all purchase orders are issued for equipment, supplies, and services for the University, with the exception of library books, which are ordered by the library on special purchase orders.

Stores and Receiving

The Stores and Receiving Department is located in the metal quonset hut directly east of the Harvey Fletcher Laboratories Building. All deliveries are made here, and materials which have been received are inspected (with the exception of drugs, chemicals, zoological specimens, and delicate scientific instruments, which go directly to the department using them) before being delivered to the various ordering departments.

Students Supply Association

The Students Supply Association operates in the Herald R. Clark Student Service Center and makes it convenient for students to purchase their books, school supplies, gifts, and a few accessories.

The store is a department of the University, and its policies are established by a board of directors appointed by the President of the University. Any profit made by the store goes to the University to be used as the President and Board of Trustees authorize. None of it goes to any individual.

Every effort is made to operate the store in an efficient and up-to-date manner so that it will be an example of good retailing practice. The board of directors has charged the manager with the responsibility of operating the store just as he would if it had stiff competition right on campus. At the same time, the store must not alienate the merchants downtown by being a "price cutter." Merchandise is sold at regular list prices.

University Press

The University has a large investment in printing equipment and presses which are used for the myriad printing jobs required on campus. The press is responsible for the printing of the student daily newspaper, the literary magazine, the yearbook, and numerous University brochures, bulletins, and catalogs.

Motion Picture Production

The Department of Motion Picture Production has been established to produce documentary, historical, and training films for use in the Church and in schools. A correlated program with drama, music, art, writing, and all creative departments on campus is used to produce films for instruction, television, and public relations.

Colleges and Schools

Colleges

Each college in Brigham Young University is an undergraduate college which offers work for the bachelor's degree only. All work beyond the bachelor's degree, in every department, is under the dean of the Graduate School.

Biological and Agricultural Sciences

Business

Education

Family Living

Fine Arts

General

Humanities and Social Sciences

Nursing

Physical and Engineering Sciences

Physical Education

Religious Instruction

School

Graduate

College of Biological and Agricultural Sciences

Rudger H. Walker, Dean (110 B)

The departments in the College of Biological and Agricultural Sciences fall naturally into two primary divisions: the division of Biological Sciences and the division of Agricultural Sciences.

DIVISION OF AGRICULTURAL SCIENCES

Included in the Division of Agricultural Sciences are the departments of Agricultural Economics, Agronomy, Animal Husbandry, and Horticulture and Horticultural Specialties. Students taking their major work and supporting courses in these departments and in the related basic sciences may prepare themselves for successful careers in agriculture.

Agriculture has always been America's basic industry, and is more important today than ever.

The agricultural industry has developed as rapidly as other industries in America in mechanization and efficiency of production. The men and women engaged in agricultural production and marketing and in the related agricultural industries must have an understanding of the new scientific and technological developments that have taken place in agriculture. This, along with practical experience, will better prepare them to serve as farm managers and operators and as technicians in the various phases of agricultural production, marketing, research, education and in the related agricultural industries.

All students interested in agriculture will be given an opportunity to obtain a broad understanding of the various phases of agriculture. In addition, they may choose to specialize by taking a major in one of the departmental curricula. Students may choose a course of study that will prepare them for farm and ranch operation and management, for employment in related agricultural business or industries, for employment with governmental organizations under civil service, or for teaching and research. For certain kinds of work it will be necessary to place strong emphasis on preparation in the basic sciences and on graduate study for an advanced degree.

Students who have had a background of farm experience and training in vocational agriculture in high school, and who are interested in agriculture and think they would enjoy working in the agricultural professions, are encouraged to register in the College of Agricultural and Biological Sciences. Students who prepare themselves well usually have little or no difficulty in finding satisfactory employment.

Pre-Veterinary Course

Adviser: Keith H. Hoopes

Students who plan to enter veterinary school may take their pre-veterinary training at Brigham Young University.

Certain basic entrance requirements are common to all of the veterinary schools in the United States. The courses listed below are designed merely as a guide to help the student fill these basic entrance requirements. In connection with his pre-veterinary curriculum the student is strongly urged to work toward a bachelor's degree, including course work in animal husbandry and the basic sciences. A bachelor's degree intensifies the student's ability to understand the principles of veterinary medicine, increases his chances of acceptance into a veterinary school, and provides an alternative should the student fail to enter veterinary school.

The student is advised to consult the catalogs of veterinary schools of his choice for specific entrance requirements that may affect him. Attention is also called to the general University requirements for graduation. Students planning to enter veterinary school are not exempt from these General Education requirements.

The following courses are included in the entrance requirements of most veterinary schools:

English 111, 112
Mathematics 101, 111
Chemistry 111, 112, 113, 221, 351, 352
Zoology 212, 213

(Students who have not had adequate training in high school biology or who fail to perform satisfactorily in the biology section of the entrance examination should first register for Zoology 105.)

Physics 201, 202
Botany 101
Bacteriology 121
Animal Husbandry 153, 207

DIVISION OF BIOLOGICAL SCIENCES

Included in the Biological Division of the college are the departments of Bacteriology, Botany, and Zoology and Entomology. Students may take courses in any one of these departments to meet their General Education requirements for studies in the biological sciences, or they may choose to major in one of these departments.

Courses offered in these departments provide an opportunity for students to obtain a general understanding about the fundamental principles of plant and animal life and the relationships of plants and animals to man and the world in which he lives. Consideration is given to the economic plants and animals used in agriculture and industry, the native and wild plants and animals, the beneficial and injurious insects and micro-organisms, and the parasites responsible for the diseases of plants, animals and man. The conservation of our natural resources and the management of forest and range lands and wildlife resources is studied. Specialized courses are offered in each of the several branches of the biological sciences for those students who wish to major in one of these fields. Preparation for teaching and research are emphasized.

Students who are interested in medical technology, medicine, dentistry, forestry, or veterinary science may obtain their pre-professional training in the Division of Biological Sciences. Suggested curricula to serve as a guide for students who wish to prepare for these professional fields are shown below.

Pre-Dental Course

Advisory Committee: A. Lester Allen (chairman)

It is strongly recommended that the student select course work that will lead to a bachelor's degree in zoology, bacteriology, chemistry, sociology, psychology, or a related field. This will give him a broad background desired by the dental schools and will also prepare him to enter an alternate field in the event he is not admitted to dental school.

Sixty semester hours of work, including the following courses, will satisfy the minimum requirements of most dental schools. The student is advised to consult dental school catalogs to make sure that specific requirements of the schools of his choice are met. Such requirements may be somewhat more or less than those suggested below.

English 111, 112
Mathematics 101, 111
Physics 201, 202, 303

Zoology 105, 212, 213

Chemistry 111, 112, 113, 221, 351, 352, 354, 355

The remaining units should be completed in general education and course work leading to the bachelor's degree.

Pre-Forestry Course

Adviser: Kent H. McKnight

Students may prepare themselves for training in forestry by taking the pre-forestry curriculum during their first two years of college work. This program is under the supervision of the Botany Department.

During the freshman and sophomore years, students are registered for the basic science courses and the general education courses required for training in forestry. Upon completion of this pre-forestry program they may enroll in a professional forestry school for their major work.

Students should consult the faculty adviser of the pre-forestry curriculum for detailed information and for assistance in developing their class schedule for registration.

Pre-Medical Course

Advisory Committee: A. Lester Allen (chairman)

It is strongly recommended that the student select course work that will lead to a bachelor's degree in zoology, bacteriology, chemistry, sociology, psychology, or a related field. This will give him the broad background desired by the medical schools and will also prepare him to enter an alternative field in the event he is not admitted to medical school.

Three years of work, including the following courses, will satisfy the minimum requirements of most medical schools, although preference is usually given to college graduates. The student is advised to consult medical school catalogs to make sure that specific requirements of the schools of his choice are met. Such requirements may be somewhat more or less than those suggested below.

English 111, 112

French or German 101, 102 (reading knowledge)

Mathematics 101, 111

Zoology 105, 212, 213, and 363 or 373

Chemistry 111, 112, 113, 221, 351, 352, 354, 355

Physics 201, 202, 303

The remaining units should be completed in general education and course work leading to a bachelor's degree.

Pre-Optometry Course

Chairman: A. Lester Allen

The requirements for admission to schools and colleges of optometry are not identical. Typically, the requirements include courses in English, mathematics, physics, chemistry, and biology or zoology. Some schools have varied requirements in psychology, social sciences, literature, philosophy, and foreign language.

The pre-optometry requirements represent a minimum of two academic years of study, all of which may be taken on this campus.

Pre-Pharmacy Course

Chairman: A. Lester Allen

The first year of the curriculum of the pharmacy school may be completed at this campus. For specific details the student should consult the chairman of the pre-pharmacy committee.

College of Business

Weldon J. Taylor, Dean

The following departments are in the College of Business:

Accounting
Business Education and Office Management
Business Management
Economics
Statistics

The purpose of the College of Business is to provide educational experiences which will enable the student to acquire a broad understanding of the interrelations between the business firm, the economy, and society; offer sufficient specialization to enable the student to find a rewarding position in the business world; and assist the student in developing a sense of business ethics.

The program is directed toward the achievement of the following specific objectives:

- (1) Developing skill in the use of quantitative data and theoretical tools in analyzing the problems and policies of the economy and the business firm.
- (2) Developing an understanding of the human and social aspects of business.
- (3) Assisting the student to develop those emotional and intellectual capacities which will foster mature and competent judgment.
- (4) Stimulating both students and faculty members to engage in research and other creative activities to the full extent of their ability and resources.
- (5) Helping the student to acquire the capacity to communicate ideas orally and in writing.

In order that all students who plan to graduate with a major in any of the departments in the College of Business (except business teaching majors) may benefit from a common background of basic information and tools to facilitate their advanced work, they are required to take the core courses listed below. These courses form a basic training normally to be completed during the first three years of college work and before the student undertakes specialization in his major area.

Accounting 121, 201 or 211, and 342	10 hours
Business Management 340 or 585, 347 or 579, and 348 or 552	9 hours
Economics 111, 112, and 345	8 hours
Statistics 221 and one other statistics course	4 hours

Substitutions may be made in B.E.O.M. for Business Management 340 and Economics 345. Economics 453 can be substituted for Business Management 348 or 448.

Economics 111 and 112 listed above apply toward the University General Education requirements in the social sciences.

Consistent with objective (5) above, it is recommended that all College of Business students take B.E.O.M. 320.

M.B.A. Program

In response to a growing demand for responsible and creative leadership in our business and industrial society, the University has developed a professional program leading to the awarding of a Master of Business Administration degree. This program is designed to serve qualified students from all areas of the University regardless of their undergraduate major. Students contemplating an M.B.A. degree are advised to take a broad program in their undergraduate work. Further information may be secured from the Graduate School Catalog, the Graduate School dean, and members of the M.B.A. faculty.

College of Education

A. John Clarke, Acting Dean (118 McKay)

The College of Education has as its principal function the educating of teachers, counselors, school librarians, principals, supervisors, superintendents, and other professional workers in education.

The following departments are in the College of Education:

Educational Administration
Educational Philosophy and Programs
Educational Research and Services
Instruction

Educational Research Program. In addition to the other departments, the University has established an Educational Research Program. This program will conduct research projects, stimulate research on educational problems on the part of faculty members, students, and others, and assist with the planning and conducting of research projects being carried out at the University, in school districts of the area, or by other educational groups or agencies. The program will provide some opportunity for graduate students to participate in on-going research projects and assistance in planning their own research programs.

High School Teaching. A student who plans to prepare for a career in high school teaching and related activities may do so either by registering within the College of Education or by registering in one of the other colleges of the University. In the latter case, he must complete the required professional education courses and the necessary subject-matter and other courses for the teaching certificate under the joint direction of an adviser in the College of Education and an adviser in his major college.

Elementary School Teaching. A student interested in elementary school teaching should register in the College of Education immediately. The program is largely prescribed from the beginning of the freshman year. Late entrance into the college may delay graduation and certification beyond the usual four years.

Teaching as a Second Career. A student preparing for a career in a field other than teaching may provide himself with a second possibility for employment by meeting the requirements for certification as a teacher while he is completing the other preparation. By planning early in one's career, one may do this within the usual scope of the baccalaureate program and with little or no interference with the major program. It should be noted that at present this is particularly feasible for high school teaching, where depth of preparation in two or three subject-matter fields is desired, but it also may be possible under special arrangements in the elementary school program.

Early Decisions Desirable. In either case, the student is urged to make the decision as early as possible in his college career to avoid conflicts in the scheduling of courses and to take fullest advantage of the maturing effect produced by spacing the study of teaching over a period of time.

How to Proceed. Those who decide to register in the College of Education should transfer to that college at once. All others will register in the colleges in which they are majoring. Every candidate for a teacher's certificate, however, regardless of the college in which he is registered, must have his certification program approved in the Teacher Certification Office, Room 111 McKay, before he enters the first course in the professional education sequence.

Cycle Organization. To insure adequate facilities and opportunity to take classes, it has been necessary to organize the programs of the College of Education into cycles. Students in elementary education enter the cycles as beginning freshmen according to alphabetical listing of surnames. Students in secondary

education are placed in the appropriate cycle according to subject-matter department. Inquiries concerning the proper cycle may be made in Room 111 McKay.

Because it is necessary to keep the cycles balanced, students will not be admitted to the first course without proper approval of their programs.

Students who are not meeting the academic and other standards of the University may be asked to withdraw from the teacher certification program.

All students in the teacher certification program will be required to meet minimum standards in speech and hearing. Speech and hearing tests may be given as part of the course requirements in the first course in the certification cycle.

Each student who undertakes preparation for teaching will be provided with a brochure describing the requirements and procedures. He will be expected to keep a record of his program and his progress.

How to Become Certified. A student who completes the certification requirements set forth by the College of Education regardless of the college in which he is registered, is eligible for a certificate issued by the Utah State Board of Education. Certification is referred from that board after application for certification has been made personally by the student through the dean of the College of Education, who in turn recommends the student to the state board.

All students who have met the requirements of the state are recommended when they apply for certification. Application should be made by all students who are successfully completing their requirements upon completion of 94 semester hours of credit. Applications should be picked up and returned to the Teachers Certification Office, 111 McKay Building.

Students expecting to graduate in June should file their completed application with the Teacher Certification Office not later than January 15, and students expecting to graduate in August should file their application not later than March 15.

A student may prepare himself to be certified as any of the following:

- Teacher in kindergarten
- Teacher in elementary schools
- Teacher of special classes for handicapped children
- Teacher in secondary schools
- Teacher of industrial arts in secondary schools
- Teacher of vocational homemaking in secondary schools
- Teacher of unit shops in industrial arts
- Supervisor and administrator of industrial technical education
- Librarian in elementary schools
- Librarian in secondary schools
- Counselor
- Administrator-Supervisor in elementary schools
- Administrator-Supervisor in secondary schools
- Superintendent

First Certification Requirements. Certification of teachers is a function of the Utah State Board of Education. The Board of Education publishes requirements for certification in booklet form and in supplements. The present policy of the board is one of stating minimum requirements in general terms. This is done for the purpose of encouraging the institutions that prepare teachers to engage in continuous study of the requirements, going beyond the minima in whatever ways seem desirable. While the board is always able to certify a candidate without recommendation from a university, it chooses to require the recommendation of the officer in charge of teacher preparation in each institution. This requirement is of assistance not only to the state board, but also to the institution because of the assurance that its efforts to improve the program of preparation will not be made ineffective by the ready availability of ways of going around the minimum requirements.

Alterations in the requirements may be made from time to time. They will not be made retroactive in the case of any student, but may be made to apply to uncompleted portions of his program where this can be done without difficulty.

Requirements for a Second Certificate. An individual who has met the requirements for a general elementary school certificate may obtain a general secondary school certificate by meeting certain additional requirements. The state's requirements for subject-matter major, minor, or composite teaching major must be completed. In addition, the individual must complete certain courses in methods of teaching and in student teaching at the secondary school level. An individual who has met the requirements for a general secondary school certificate may obtain a general elementary school certificate by completing certain courses in methods of teaching and in student teaching at the elementary school level. Specific instructions for these programs are available in the Teacher Certification Office, Room 111 McKay.

Fifth-Year Program for Teachers in Service. Advancement in teaching, both professionally and economically, requires study in some depth beyond the bachelor's degree. State departments of education are increasingly raising certification standards to the level of a five-year preparation program. To meet this need Brigham Young University offers a carefully planned fifth-year program. It consists of the equivalent of a master's major or minor in professional education, with a major or minor in the teacher's subject matter field. Details of the program may be had through the Teacher Certification Office, Room 111 McKay. The program outlined by the University will meet the requirements of the five-year professional certificate of most states.

Selection of Candidates. Candidates for certification as teachers should expect to be carefully selected, even though their interest in certification is secondary to another career at the time. Only those who are individuals of high caliber, who have acquired a substantial general education, whose mastery of their major and minor fields is unquestioned, and whose personal character reflects the best ideals of our culture will finally be recommended for certification.

The selection of those who will be finally recommended for certification is a continuous process. It begins when the student first announces his intention of seeking certification. It continues through all stages of his education. Among other things, it is necessary to maintain a Brigham Young University cumulative grade-point average of 2.25 or better to remain in the program ("C" = 2.00).

Students Transferring from Other Colleges. To transfer from another university to the College of Education at the Brigham Young University the student must have a cumulative grade-point average of 2.25 or better.

Students transferring to the College of Education from another college within Brigham Young University must have a Brigham Young University cumulative grade-point average of 2.25 or better.

To continue to take sequence courses in professional education or to remain in the College of Education, the student must maintain both a Brigham Young University cumulative grade-point average and a semester grade-point average of 2.25 or better.

Special Education. Utah has recently adopted a certification program in special education, with specialization provided in the following areas: children with intellectual handicaps, children with motor handicaps, children with speech and hearing handicaps, and children with academic handicaps. To be certified in Utah the individual must have a valid teaching certificate, plus appropriate experience, and must complete specified graduate study in the chosen area. Students interested in speech and hearing correction should contact the Speech Department. All others should consult the Department of Educational Research and Services.

Personnel and Guidance. Certification as a school counselor in Utah requires approximately one year of graduate work in personnel and guidance plus two years of successful teaching experience. For course listings in this area, see the Department of Educational Research and Services.

PREPARATION OF ELEMENTARY SCHOOL TEACHERS

The College of Education offers a comprehensive program which will satisfy requirements for an elementary teaching certificate as well as graduation requirements for students registered in the College of Education. The candidate for certification must meet University graduation requirements.

The program consists of four elements:

1. The arts and sciences major for elementary school teachers, which also satisfies the University requirements in general education.
 2. The professional preparation, which includes 30 semester hours of designated professional education courses, constituting a major in elementary education.
 3. The group electives, by the judicious use of which the student may add a subject-matter minor, if he so desires, thus materially contributing to his academic preparation and his chances for employment.
 4. University requirements in religion, English, and health.
1. **The Arts and Sciences Major (60-62 hours).**

Required courses and elective courses within the major are listed below:

a. **Biological Sciences (9 hours).**

- (1) Required (6 hours): Bacteriology 121; Botany 101 or Zoology 105.
- (2) Elective (3 hours): Bacteriology 311; Botany 105 (recommended), 176, 205, 460; Foods and Nutrition 115; Zoology 176, 230, 315 (recommended), 357. If Botany 101 is chosen, the elective must be in Zoology. If Zoology 105 is chosen, the elective must be in Botany.

Note: Those passing the entrance examination in fundamentals of biology should substitute courses from the elective list for Botany 101 or Zoology 105.

b. **Humanities and Aesthetics (24-26 hours).**

- (1) Required (22 hours): Art 110, 226; three semester hours chosen from English 250, 260, 270, 355, 356, 357, 358; History 360, 366; Instruction 324 or 325, 340; Music 102, 237; Speech 121.
- (2) Elective (one course): Archaeology 310; Clothing and Textiles 110, 165; History 110, 111, 365; H.D.F.R. 322; Library Science 366; Music 101, 105; Speech 366.

c. **Physical Education (4 hours).**

- (1) Required (2 hours): Physical Education 375 or 376.
- (2) Elective (2 hours): Any lower division physical education course, except P.E. 180. Physical Education 181 and 182 are recommended for elementary education majors.

d. **Physical Sciences (10 hours).**

- (1) Required (6-7 hours): Chemistry 100, Geology 101, Physics 100; Physical Science 101, 102.
- (2) Elective (3-4 hours): Physics 127, 137; Geology 102, 103, 501, 502.

e. **Social Sciences (15 hours).**

- (1) Required (12 hours): History 170 (those minoring in history should take History 120 and 121 instead); Economics 101; Psychology 111; Anthropology 101 or Geography 120.
- (2) Elective (3 hours): Economics 461; Geography 101, 211, 231; Political Science 105; Psychology 340; Sociology 111, 112, 383, 389, 512.

2. **The Major in Elementary Education (30 hours).**

Inst. 301. Basic Concepts of Teaching	2 hours
Inst. 320. Elementary Teaching Procedures	3 hours
Inst. 321. Reading and Arithmetic	3 hours
Inst. 449. Elementary Student Teaching	8 hours
E.R.S. 403. Development and Learning	4 hours

Inst. 405. Analysis of Teaching	2 hours
Inst. 406. Teaching Materials Laboratory (Audio-Visual Aids)	2 hours
Ed. Adm. 310. The State, the School, and the Teacher	2 hours
Ed. Phil. 415. Educational Values	2 hours
Health Ed. 361. Health Education for Elementary Teachers	2 hours
Note: Inst. 422 and H.D.F.R. 322 are required for H.D.F.R. majors and the Utah kindergarten efficiency certificate. Inst. 422 is required for certification for California kindergarten-primary level.	

3. **Elective** (10-30 hours, depending on the number of hours taken each semester). Electives may be used to add a subject-matter teaching minor. See "Subject-Matter Preparation of Secondary School Teachers" below. Sufficient electives **must** be taken to bring the total to 124 hours.
4. **University requirements not covered by the majors or the electives** (22-24 hours). See the General Education requirements in the Student Academic Services section of this catalog.
 - a. Religion (16 hours).
 - b. Freshman English (4 or 6 hours).
 - c. Health 130 (2 hours).

Cycles. Copies of the cycles with complete programs for all four years are available in Room 111 McKay (Teacher Certification Office). Students enter the cycles according to alphabetical order.

Students on Former Programs. Students who have been working toward certification on former programs are requested to consult with personnel of the Teacher Certification Office for counseling with respect to the completion of requirements.

PREPARATION OF SECONDARY SCHOOL TEACHERS

The College of Education offers professional courses leading to secondary certification. Students desiring certification in this area must complete course requirements in the following areas:

1. **General Education.** See the General Education requirements in the Student Academic Services section of this catalog.
2. **An approved teaching major and minor, or composite major.** (See below.)
3. **Professional Education.** The following required courses fill the state requirement for a minimum of 22 semester hours of professional education. Courses should be taken in the sequence shown below, except that Health 362 and Ed. Adm. 310 may be taken at any time. E.R.S. 403, Instruction 405, Instruction 406, and Ed. Phil. 415 may be taken concurrently. For course prerequisites check course descriptions.

Inst. 301. Basic Concepts of Teaching	2 hours
Inst. 377. Secondary Teaching Procedures	3 hours
Inst. 479. Secondary Student Teaching	8 hours
E.R.S. 403. Development and Learning	4 hours
Inst. 405. Analysis of Teaching	2 hours
Inst. 406. Teaching Materials Laboratory (Audio Visual Aids). (Required for California certification; recommended but not required for Utah teachers)	2 hours
Ed. Phil. 415. Educational Values	2 hours
Health 362. Health Education for Teachers	2 hours
Ed. Adm. 310. The State, the School, and the Teacher	2 hours

Subject-Matter Preparation of Secondary School Teachers

The University offers two approaches to certification. One consists of the traditional teaching major and teaching minor, while the other consists of a composite teaching major.

Prerequisite for Student Teaching. As a prerequisite for student teaching, students seeking secondary certification must complete at last 15 semester hours in their teaching major and 10 semester hours in their teaching minor, or 25 semester hours in their composite teaching major.

Preparation of Teachers of the Core Curriculum. One pattern of curriculum organization in the public junior high schools is the core curriculum. The most common combination in the core curriculum is history or social studies and English. To increase a teacher's employability and preparation for junior high school teaching, it is therefore recommended that a major in history be combined with a minor in English, or a major in English with a minor in history.

Teaching Major and Teaching Minor. A teaching major consists of 24 or more hours of designated courses in a subject taught in Utah high schools and approved by the College of Education. A teaching minor consists of 16 or more hours of designated courses in a subject also taught in the secondary schools of Utah and approved by the College of Education. The 24-45 hour groups listed in the following material are approved for the teaching major; the 16-30 hour groups listed in the same section are approved for the teaching minor.

These subjects are approved as either teaching majors or minors (please note exceptions):

Accounting	Latin
Art	*Library science (minor only)
**Botany	**Mathematics
Business education	Metalwork (minor only)
**Chemistry	**Music education (minor or composite major only)
Craftwork (minor only)	**Physical education
Drawing (minor only)	**Physics
*Economics	*Political science
Electricity (minor only)	*Psychology
**English	Recreation (minor only)
French	Russian
General business (minor only)	**Safety and driver education (minor only)
Geography	Spanish
Geology	Speech
German	*Sociology
Health education	Woodwork (minor only)
**History	**Zoology
**Industrial education and drawing	
Journalism	

*If elected as a major or minor, the other subject must be one marked ** above.

Composite Teaching Major. A composite teaching major consists of work in three subjects in the same general field totaling at least 40 hours, with 16 or more hours of designated courses in a dominant subject, and 12 or more hours of designated courses in each of two related subjects in the same general area. For guidance in selecting and completing a composite teaching major, students must consult with the Teacher Certification Office, Room 111 McKay, whose responsibility it is, under cooperative advisement with the academic departments, to administer composite majors. Only those general fields listed below may be selected for a composite teaching major.

Any deviation from the academic programs as outlined must be approved in writing by the chairman of the subject-matter department concerned and by the Teacher Certification Office, Room 111 McKay, and filed with the student's permanent records in the College of Education.

The following general fields may be used for composite teaching majors. Three subjects of those listed in each field (a dominant and two related subjects) constitute a composite teaching major. With only those exceptions noted, any subject in the general field may be chosen as the dominant.

Substitution of other subjects within the general field is not acceptable.

Accounting and office management:

Accounting
Economics
Business education

Agriculture:

Agricultural economics
Agronomy
Animal Husbandry

Homemaking Education

Language arts:

English
Journalism
Speech

Mathematics and physical sciences:

Chemistry
Geology
Mathematics
Physics

Music education (any one of the following constitutes the composite):

Composite music education major
Composite vocal major
Composite instrumental major

Health, physical education, and recreation:

Health
Physical education
Recreation
Safety and driver education

Social Sciences:

Geography, history, and one of the following:

Economics
Political science
Psychology
Sociology

**COURSES REQUIRED FOR TEACHING MAJORS, TEACHING MINORS,
AND COMPOSITE TEACHING MAJORS**

Accounting:

25-hour list (Major): 201 or 211, 212, 301, 302; and 5 hours selected from 255, 342, 420, 575, B.E.O.M. 206.

16-hour list (Minor or dominant subject): 201 or 211, 212; and 6 hours selected from 255, 301, 302, 342, 420, 575.

12-hour list (Related subject): 201 or 211, 212; and 2 or more hours selected from 255, 301, 302, 420.

Agricultural Economics (Farm management) (For use in agriculture composite only):

17-hour list (Dominant subject): 101, 325, 410; 6 hours chosen in consultation with the department chairman from 320, 360, 425, 580.

Note: Certain statistics classes may be substituted in the optional list by the department chairman. Ten hours of upper division credit are required.

12-hour list (Related subject): 101, 325; and 5 hours selected from 350, 360, 410, 425, 580.

Agronomy (For use in agriculture composite only):

16-hour list (Dominant subject): 141, 251, 440; 6 hours selected from 302, 305, 308, 311, 451, 455, 459.

12-hour list (Related subject): 141, 251; 5 hours selected from 305, 308, 311, 440, 451, 455, 459.

Animal Husbandry (For use in agriculture composite only):

16-hour list (Dominant subject): 153, 207, 208; and 8 or more hours selected from 161, 162, 170, 171, 311, 312, 335, 337, 340, 341, 345, 346, 370, 446.

12-hour list (Related subject): 153, 207, 208; and 4 or more hours selected from 161, 162, 170, 171, 311, 312, 335, 337, 340, 341, 345, 346, 370, 446.

Art:

55-hour list (Composite major): Starred (*) courses must be completed before attempting upper division work.

Basic requirements: *121, *122.

General requirements: 310 and at least 6 hours selected from 306, 307, 308, 403, 405.

Dominant and supporting fields: The student will complete 16 hours in one of the following three groups as a dominant field and 12 hours in each of the other two fields.

1. Crafts (Plastic and graphic): *250, *256, *263, 312, 350, 352, 356, 358, 359, 361, 362, 366.

2. Drawing and painting: *227, *233, 321, 322, 327, 329, 333, 335, 474, 476, 580, 582.

3. Commercial art and interior design: *239, 314, 341, 342, 343, 415, 417, 447, 448, 544, 546.

40-41 hour list (Major): Starred (*) courses must be completed before attempting upper division work except art history. Lower division: *121, *122, *227, *233, *239, *250, *256, *263. Upper division: 310, 321, 322, 341 or 312, 350 or 352, 356, 361, 366; at least 6 hours selected from 306, 307, 308, 403, 405.

26-hour list (Minor): Starred (*) courses must be completed before attempting upper division work: *121, *227, *233, 239, *250, 256, *263, 306, 310, 314; and 4 hours selected from 312, 321, 359, 362, 366.

Botany:

Note: Prospective biology teachers should complete either a zoology major and a botany minor, or a botany major and a zoology minor.

27-hour list (Major): 101, 110, 201, 205, 321, 331, 376, 390 or 490, 440, 450. Recommended in addition: 335, 455, 460.

16-hour list (Minor): 101, 105, 110, 201; 6 hours selected from 205, 321, 376, 440, 450, 460.

Business Education:

31-hour list (Major): 203, 204, 206, 220, 300 (previously was 468), 305 or 320, 311 or 313, 312, 370, 475, 485 or 486.

Note: In order to qualify for a 31-hour teaching major in business education, a student must also complete Accounting 201 or 211, 202; and Economics 101.

17-hour list (Minor): 204, 206, 220, 305 or 320, 312, 370.

Chemistry:

32-hour list (Major): 111, 112, 113; 22 hours selected from 321, 322, 351, 352, 354, 355, 461, 504, 514, 581, 591.

16-hour list (Minor or dominant subject): 111, 112, 113; 6 hours selected from 221 or upper division courses in chemistry.

13-14 hour list (Related subject): 111, 112, 113; 3-4 hours from 221 or upper division courses in chemistry.

Note: Chemistry 105 and 106 will be considered equivalent to Chemistry 111 and 112.

Dramatic Arts and Speech:

33-hour list (Major):

Dramatic Arts: 121, 123, 126, 241, 319, 2 hours from 320 or 321, 325, 460.

Speech: 101, 111, 305, 371, 401, 491*, 527.

18-hour list (Minor, dominant, or related subject):

Dramatic Arts: 121, 319, 1 hour from 320 or 321, 325, 460.

Speech: 102, 491*, 525.

Plus one hour elective from either department.

***Note:** Speech 491 is required of all majors and minors.

Economics:

25-hour list (Major): 101 or 111, 112, 274, 345, 575 or 576; and 11 hours selected from 358, 383, 454, 461, 462, 575, 576, 580.

17-hour list (Minor or dominant subject): 101 or 111, 112, 274, 345; and 6 hours selected from 358, 383, 454, 461, 575, 576.

12-hour list (Related subject): 101 or 111, 274; and 6 hours selected from 358, 383, 454, 461, 575, 576.

English:

30-hour list (Major): 221, 251, 361 or 363, 362, 382 or 582, 490; 4 courses from 371, 372, 373, 374, 375. Two of the following substitutions are allowed: 481 for 371, 541 for 372, 542 for 373, 332 for 375. Sufficient electives must be taken to bring the total to 30 semester hours.

16-hour list (Minor, dominant or related subject): 221; 251; 282, 382 or 582; one course from 361, 362, or 363 (362 recommended); one course from 371, 372, 373, 374, 375 (374 or 375 recommended); and sufficient electives to bring the total to 16 semester hours.

Note: Freshman English courses do not count toward filling teaching major or minor or composite requirements.

French:

36-hour list (Major): 101, 102, 201, 301, 321, 322, 441, 442, 511 (or equivalents); and 6 hours from 431, 432, 490, 491.

30-hour list (Minor): 101, 102, 201, 301, 321, 322, 511 (or equivalents); and 6 hours from 431, 441, 442.

General Business: (May not be used as a teaching major)

16-hour list (Minor): Fourteen of the sixteen credits must be in two departments.

Accounting 201 or 211; 202; 255, 342; Stat. 131.

Economics 101; 274, 345; 461.

Business Management 205, 347, 480, 481.

Geography:

26-hour list (Major): 101, 211, 231, 351, 504; two courses selected from 401, 441, 522, 533; two courses selected from 455, 460, 470, 475; and electives to total 26 hours chosen in consultation with the chairman of the Geography Department.

16-hour list (Minor or dominant subject): 101, 120, 211, 231, 351; two hours chosen in consultation with the chairman of the Geography Department.

12-hour list (Related subject): 101, 120, 231, 351.

Geology:

26-hour list (Major): 111, 112, 251, 252, 306, 311, 502; and one course selected from 460, 480, 696.

18-hour list (Minor or dominant subject): 111, 112, 251, 252, 502.

12-13 hour list (Related subject): 111, 112, 501, 502; or 101, 102, 103, 306, 501, 502.

German:

36-hour list (Major): 101, 102, 201, 301, 321, 322, 431, 432, 441, 442, 511 (or equivalents).

30-hour list (Minor): 101, 102, 201, 301, 321, 322, 441, 442, 511 (or equivalents).

Health Education:

28-hour list (Major): 121, 325, 381, 521, 530, and 552 or 560; Foods 115; Zoology 264; Psychology 340; and 6 hours chosen from the elective courses which also count in health education.

16-hour list (Minor or dominant subject): 121, 325, 381, 521; and 4 hours selected from the following: Foods 115; Health 530, 552, 560; and Psychology 340. In addition, a student may count 4 hours from the elective courses which also count in health education.

16-hour list (Driver and safety education minor): 121, 325, 444, 445; and 6 hours selected from the following: 521, 530, 560; Physical Education 164 or 165; and Instruction 406.

13-hour list (Related subject): 121, 325, 521, 552 or 560; Psychology 340; Foods 115.

History:

30-hour list (Major): 110, 111, 120, 121, 366; and 16 hours selected in consultation with the chairman of the History Department.

Note: At least 10 hours of the major must be upper division credit.

16-hour list (Minor or dominant subject): 110, 111, 120, 121, 366; and one elective course selected in consultation with the chairman of the History Department.

12-hour list (Related subject): 110, 111, 120, 121.

Note: Students may not use History 170 toward completion of the above requirements unless approved by the chairman of the History Department.

Homemaking Education (Homemaking education may be used only as a composite teaching major; no teaching major or teaching minor alone may be selected from this field.):

42-44 hour list:

Clothing and Textiles 110, 165, 235 or 300, 260.

Food and Nutrition 110 (need determined by test), 255, 264, 265 (lab), 340.

Housing and Home Management 220, 330, 350, 351, 370.

Human Development and Family Relationships 210, 322, 361.

Nursing 288.

Industrial Education and Drawing:

45-hour list (Major):

*Drawing 109, 110, 111; Ind. Ed. 100, 105, 120, 125, 130, 139, 196, 197, 200, 240, 250, 260, 360 or 160 and a departmentally-approved art course, 405, 470, E.R.S. 550; and E.T. 102.

*If any area of instruction found in the major is selected for a minor, then the requirements in this area are dropped and a corresponding number of elective hours are to be added.

16-hour list (Minor):

Drawing 110, 111; Ind. Ed. 100, 105, 139, 160, 240.

17-hour list (Minor in craftwork): Drawing 109; Ind. Ed. 160, 250, 260, 360; Art 256, 263, 366.

16-hour list (Minor in drawing): Drawing 109, 110, 111, 156, 210 or 255, 310, 311.

16-18 hour list (Minor in electricity):

Option 1: Power (18 semester hours): E.T. 101 or Ind. Ed. 240, E.T. 102, 221, 222, 223, 224.

Option 2: Electronics (16 semester hours): E.T. 101 or Ind. Ed. 240, E.T. 102, 231, 232.

16-hour list (Minor in metalwork): Ind. Ed. 120, 125, 130, 131 or 325, 139, 335, 336, 337.

16-hour list (Minor in woodwork): Ind. Ed. 100, 105, 200; and 8 hours selected from Ind. Ed. 119, 201, 210, 211, 301.

Journalism:

27-hour list (Major): 101, 211, 212, 301, 321, 323, 330, 410, 490; 4 hours selected from 111, 307, 315, 331, 561.

18-hour list (Minor, dominant, or related subject): 211, 212, 321, 323, 490; 4 hours selected from 101, 111, 301, 330, 410.

Latin:

36-hour list (Major): 101, 102, 201, 301, 441, 442, 490, 491, 511 (or equivalents); and 6 hours from 340, 341, 651, 667.

30-hour list (Minor): 101, 102, 201, 301, 441, 442, 511 (or equivalents); and 6 hours from 340, 490, 491, 651, 667.

Library Science:

16-hour list (Minor or dominant subject): 355, 363, 366, 370, 585; and 5 hours of electives in library science.

Mathematics:

25-hour list (Major): 213, 214, 300, 301; 9 hours selected from 311, 312, 371, 372, 387, 521, 522.

16-hour list (Minor or dominant subject): 112, 213, 300, 301.

13-hour list (Related subject): 112, 213, 301.

Music Education:

Band instrumentalists who pursue one of the music education degrees participate at least one fall semester in marching band and one spring semester in varsity band, preferably on a minor instrument. Voice majors sing in at least two ensembles.

Students who major or minor in music attend lyceums as well as Music Department recitals and concerts. Majors must accumulate six semesters of satisfactory attendance at such events during the four years (minors four semesters). In order to achieve satisfactory attendance, a student may not be absent from more than two such concerts or recitals during any one semester. Students who fail to accumulate the necessary satisfactory attendance are required to take Music 103 during their last semester before graduation.

The first two areas listed may be used for teaching minors only, and may be selected only when the accompanying teaching major is in a field other than music.

Instrumental Music Emphasis Area:

21-hour list: 101, 191, 193, 201, 202; 6 hours selected from 160p or 360p (on instrumental specialty), 368, 370, 372, 375; 4 hours of instrumental ensembles.

Vocal Music Emphasis Area:

21-hour list: 101, 191, 193, 201, 202, 374; 4 hours of group and/or private voice; 4 hours of vocal ensembles.

The three areas listed below may be used as composite teaching majors.

Composite Music Education Major:

60-hour list: 191, 192, 193, 194, 201, 202, 291, 292, 363, 364, 367, 368, 370, 372, 374, 375, 378, 484, 485; 4 hours of ensemble; 4 hours of functional piano; 12 hours of private instruction in the student's specialty.

Composite Vocal Major:

60-hour list: 191, 192, 193, 194, 201, 202, 291, 292, 374, 378, 466, 484, 485, 566, 567, 568; 12 hours of private voice instruction; 2 hours of piano accompanying; 4 hours of ensemble; 8 hours of functional piano.

Composite Instrumental Major:

60-hour list: 191, 192, 193, 194, 201, 202, 291, 292, 367, 368, 370, 372, 375, 378, 484, 485; 6 hours of instrumental ensemble; 2 hours of vocal ensemble; 12 hours of private instruction in the student's specialty;

Physical Education:**Men:**

33-hour list (Major): 180, 181, 182, 190, 191, 231, 232, 233, 234, 235, 290, 291, 330, 341, 344, 371, 372, 373, 374, 390, 391, 413, 446, 464, 490, 491; and 2 to 3 hours electives.

16-hour list (Minor): Two courses from 180, 181, 182; 3 hours from 231, 232, 233, 234, 235, 330, 341, 446; 4 hours from 371, 372, 373, 374.

14-hour list (Related subject): Two courses from 180, 181, 182; 3 hours from 231, 232, 233, 234, 235; 2 hours from 371, 372, 373, 374; and 330, 341, 375 or 376.

Women:

33-hour list (Major): 180, 181, 182, 183, 187, 188, 190, 191, 241, 242, 244, 245, 290, 291, 330, 341, 344, 375 or 376, 390, 391, 413, 446, 464, 490, 491; and 4 hours electives.

16-hour list (Minor): Two courses from 180, 181, 182, 183; 3 courses from 241, 242, 243, 244; and 187, 188, 330, 341, 375 or 376.

14-hour list (Related subject): Two courses from 180, 181, 182, 183; 2 courses from 241, 242, 243, 244; and courses 187, 188, 330, 341, 375 or 376.

Physics:

26-hour list (Major): 211, 212, 213, 214, 315, 316, 321, 322; and 3 or more hours selected from the upper division courses.

18-hour list (Minor or dominant subject): 211, 212, 213, 214, 300, 315 (or 303), and 3 or more hours selected from the upper division courses.

13-14 hour list (Related subject): 201, 202, 303; and 2 or more hours selected from 127, 128, 137, 177, 300, or other upper division courses.

Political Science:

30-hour list (Major): 110, 111, 112 or 115, 300; and 18 hours selected in consultation with the chairman of the Political Science Department to include one course from 301, 303, 306; one course from 310, 320, 322; one course from 330, 532, 535; one course from 350, 352, 355, 557; one course from 370, 565, 571, 575; one course from 396, 397, 575, 595.

18-hour list (Minor or dominant subject): 110, 111, 112 or 115; and 9 hours selected in consultation with the chairman of the Political Science Department.

12-hour list (Related subject): 110, 111, 112 or 115; and 3 hours selected in consultation with the chairman of the Political Science Department.

Psychology:

27-hour list (Major): 111*, 321*, 340 or 540*, 360*, 365*, 370*, 374, 378*, 491; at least 3 hours selected from 185, 320, 350, 445*, 550*, 585*.

17-hour list (Minor or dominant subject): 111, 311, 321, 378, 540 or 550; at least 3 hours selected from 185, 320, 340 or 540, 350, 445, 550, 585.

13-hour list (Related subject): 111, 311, 321; at least 5 hours from 185, 320, 340 or 540, 350, 374, 378, 445, 550, 585.

*Required on the undergraduate level for the school psychologist program.
Note: In order to complete professional education requirements, the student should complete E.R.S. 304 rather than E.R.S. 403, and three hours of electives in psychology.

Recreation:

18-hour list (Minor or dominant subject): 301, 337, 371, 387, 388, 505;

Physical Education 280, and four hours of electives from the approved list under Department of Recreation.

12-hour list (Related subject): 301, 337, 387, 388, 505; Physical Education 280.

Note: A student may substitute for one of the above courses with the consent of the department chairman and the Teacher Certification Office.

Elementary education majors should refer to the Department of Recreation section of the catalog for the recreation minor.

Russian:

Program may be outlined in consultation with the department chairman.

33-36 hours required for major.

28-30 hours required for minor.

Sociology:

30-hour list (Major): 111, 112, 320, 397, 404, 405, 491, 512; and sufficient hours selected from 257, 316, 348, 350, 383, 386, 389, 403, 410, 420, 423, 426, 446, 449, 470, 516, 552, 555, 560, 570, 580, and 591 to bring the total to 30 hours.

18-hour list (Minor or dominant subject): 111, 112, 320 or 397, 404 or 405; and sufficient hours selected from 257, 316, 348, 350, 383, 386, 389, 403, 410, 420, 423, 426, 446, 449, 470, 516, 552, 555, 560, 570, 580, and 591 to bring the total to 18 hours.

12-hour list (Related subject): 111 and 112; and sufficient hours selected from 257, 316, 348, 350, 383, 386, 389, 403, 410, 420, 423, 426, 446, 449, 470, 516, 552, 555, 560, 570, 580, and 591 to bring the total to 12 hours.

Spanish:

33-hour list (Major): 101, 102, 201, 301, 321, 322, 511 (or equivalents); and 9 hours from 441, 442, 451, 452.

28-hour list (Minor): 101, 102, 201, 301, 321, 322, 511 (or equivalents); and 3 hours from 441 or 451.

Zoology:

Note: Prospective biology teachers should complete either a zoology major and botany minor, or a botany major and zoology minor.

Students who have had a year of high school biology and who pass the qualifying examination in zoology for beginning students may select three other hours of zoology in place of Zoology 105.

32-hour list (Major): 105, 212, 213 or 363, 230, 261, 372, 376, 451; and sufficient hours selected from 343 or 345, and 346 or 347 to bring the total to 32 hours.

17-hour list (Minor): 105, 230, 261, 343 or 345, 346 or 347, and 372.

DUAL CERTIFICATION

For those students who are already certified in either elementary or secondary education, a program leading to certification in the other field is available upon request at the Teacher Certification Office.

TEACHER PLACEMENT

Placement of teachers is a function primarily of the University Placement Bureau, which works in close collaboration with the College of Education. All students are required to register in the Placement Bureau as a prerequisite to registration for student teaching, whether they have positions already assured or not. Registration before leaving the campus enables the office to be of service at later dates as new opportunities or new needs arise.

The Laboratory School

Director: Edwin A. Read

Assistant Directors: John K. Crnkovic, instruction; Max J. Berryessa, operations.

The Laboratory School (kindergarten through twelfth grade) is maintained by the College of Education to assist in the preparation of teachers and in the improvement of educational programs. Students may secure valuable experiences there as part of their preparation for teaching. The Laboratory School is also intended to furnish a setting for research in child development, in learning, in social processes, and in the planning and conducting of educational programs. Use these facilities is under the supervision of the director of the Laboratory School, an assistant director of instruction, and an assistant director of operations. Interested faculty members and students should arrange visits and demonstrations through the office of the assistant director of instruction.

In keeping with the laboratory functions of the school, pupils are frequently under observation and study, and the classes in the school are subject to various kinds of experimental treatment for the purpose of improving instruction. Regardless of these functions, however, the instruction is kept at a high level of quality, since one of the principle purposes of the school is to demonstrate superior educational practices for the benefit of teachers-in-training and teachers-in-service.

Moral and religious education is a constant part of the instruction in this school. Pupils are admitted under the assumption that they will adhere to L.D.S. standards of personal conduct, dress, and morality. Observance of these standards is a requirement for continued enrollment in the Laboratory School. Pupils are also required to observe the Utah compulsory school attendance law.

Enrollment in each grade of the Laboratory School is limited to the number of pupils for whom adequate educational services can be provided. Pupils are accepted on the basis of established criteria which are important in carrying on the unique functions of the school. Applications for admission should be filed with the assistant director of operations between January 1 and June 1 preceeding enrollment in September. Forms for this purpose are available in his office, 212 Education Building, Brigham Young University, Provo, Utah.

Pupils who are admitted to the Laboratory School may continue their education through the graduate program of the University providing established academic and behavioral standards are maintained. They have many of the advantages of the University plant, such as use of libraries, gymnasiums, laboratories, shops, athletic fields, and auditoriums.

Elementary Laboratory School

The elementary section of the Laboratory School covers the range from the kindergarten through the sixth grade.

A staff of well-qualified instructors, together with the facilities offered by the University and the assistance given by special supervisors, provide a wide range of experiences for the children. Much attention is given to individual needs and interests and to the development of special abilities of pupils. The elementary program includes instruction in art, crafts, and vocal and instrumental music.

The school serves as a laboratory for educational research and experimentation, and is a center for the preparation of teachers in elementary education.

Secondary Laboratory School

Pupils completing the first six grades are regularly transferred to the junior high school. Here departmentalization begins, permitting variations in courses

and a wide range of contact with expert instructors. Broad exploratory experiences are provided.

Pupils completing the three years of work prescribed for the junior high school are admitted to the senior high school.

Pupils graduating from the senior high school are expected to have completed eighteen units of study in three years. Equal credit is given in all subjects for equal amounts of time spent in the classroom. One unit of credit is granted for each class which meets five days per week for thirty-six weeks. All required classes must be included in the program of each pupil who qualifies for graduation.

A rich program of athletic and social activities is provided for secondary school pupils under the direction of the faculty and the studentbody organizations. Pupils participate in interscholastic athletics, speech, art, music, and commercial competition. High school students also have the advantage of participation in selected activities sponsored by the University.

Brigham Young University High School is a member of the Utah High School Activities Association, meets all requirements of the Utah State Board of Education, and is accredited by the Northwest Association of Secondary and Higher Schools.

PROGRAM OF STUDIES

Junior High School. The junior high school organization is designed to assist children in the transition from the elementary to the secondary school. The academic curriculum is designed to fit the particular needs of this age group, and to prepare them for wise selection of course offerings in the senior high school. Seventh and eighth grade students plan and conduct their own social and recreational activities under the direction of faculty advisers. Ninth graders are considered to be members of the senior high school studentbody in the Laboratory School.

Students showing high potential in achievement are permitted to take accelerated work in mathematics and language arts in anticipation of enrollment in honors classes during the last year of high school.

7th Grade subjects:

Required: English, social studies, mathematics, general science, reading, speech, physical education, and general music.

Electives: chorus and band.

8th Grade subjects:

Required: English, social studies, mathematics, general science, art, vocal music, and industrial arts or homemaking.

Electives: chorus, band, and algebra.

9th Grade subjects:

Required: English, social studies, science, mathematics, physical education, and religion.

Electives: biology, algebra, typing, chorus, band, art, industrial arts or homemaking, speech, French or German.

Senior High School. Students desiring to graduate from B.Y.U. High School and to qualify for college entrance at the same time must complete the following requirements (A unit of credit is given for any subject that is taken five times a week for thirty-six weeks):

1. A total of eighteen units is required in grades 10, 11, and 12.

2. One unit of physical education. Students who have some physical disability may be excused from this requirement upon presentation of a statement from the family physician attesting to this fact.
3. One-half unit of health.
4. One-half unit of senior guidance.
5. One unit of mathematics selected from algebra, geometry, or general mathematics.
6. Three units of English.
7. Two units of social studies: American History and Government, and either Problems of Democracy or Development of Civilization.
8. One unit selected from chemistry, physics, biology, or senior science.
9. While at Brigham Young University High School, the prescribed courses in religious education must be followed satisfactorily by all students. One religion class each year is required until graduation from the seminary program. (three units)
10. A broad selection of courses in the fine and practical arts is available to all students.

Senior students who have demonstrated outstanding academic ability may be permitted to enroll in honors classes at the high school and/or selected Home Study courses offered by the University Extension Services.

Senior High School Courses

Subject	Days		Year Taken	Credit
Art I and II	5	Elective	9-12	1 unit
Industrial Arts I and II	5	Elective	9-12	1 unit
Business				
Shorthand, Beginning	5	Elective	11-12	1 unit
Typing I and II	5	Elective	10-12	1 unit
Bookkeeping	5	Elective	10-12	1 unit
Office Practice	5	Elective	11-12	1 unit
Language Arts				
Grammar and Literature	5	Required	10	1 unit
Composition, Grammar, and American Literature	5	Required	11	1 unit
English Literature	5	Required	12	1 unit
Publications	5	Elective	10-12	1 unit
"Honors" English	5	Elective	12	1 unit
Homemaking				
Homemaking I	5	Elective	9-12	1 unit
Home Living	5	Elective	10-12	1 unit
Language				
French I and II	5	Elective	9-12	1 unit
German I and II	5	Elective	9-12	1 unit
Mathematics*				
Algebra I and II	5	Elective	9-12	1 unit
Geometry	5	Elective	10-12	1 unit
Functional Math	5	Elective	10-12	1 unit
Trig & College Algebra	5	Elective	12	1 unit
Health, Physical Education, and Personal Development				
Physical Ed. 1 (boys & girls)	5	Required	10	1 unit
Physical Ed. 2 (boys & girls)	5	Elective	11-12	1 unit

Health	2½	Required	12	½ unit
Senior Guidance	2½	Required	12	½ unit
Athletics	5	Elective	10-12	1 unit
Drill Team (girls)	5	Elective	10-12	1 unit
Religious Education				
Old Testament	5	Required	9	1 unit
New Testament	5	Required	10	1 unit
Church History	5	Required	11	1 unit
Book of Mormon	5	Elective	12	1 unit
Music				
Chorus	5	Elective	10-12	1 unit
Band	5	Elective	10-12	1 unit
Science*				
Physics	5	Elective	11-12	1 unit
Chemistry	5	Elective	11-12	1 unit
Biology	5	Elective	10-12	1 unit
General Science	5	Elective	9-10	1 unit
Social Science**				
American History & Gov't.	5	Required	11-12	1 unit
World History	5	Elective	10-12	1 unit
Problems in Democracy	5	Elective	12	1 unit
"Honors" History	5	Elective	12	1 unit
Speech				
Speech	5	Elective	9-12	1 unit
Advanced Speech	5	Elective	10-12	1 unit
Speech Workshop	5	Elective	10-12	1 unit

*These subjects are only partially elective as one of this group must be taken.

**One of these courses is required in addition to American History and Government.



College of Family Living

Jack B. Trunnell, Dean (1206 SFLC)

The following departments are in the College of Family Living:

Clothing and Textiles
Food and Nutrition
Homemaking Education
Human Development and Family Relationships
Housing and Home Management

Objectives. The program of the College of Family Living is designed to contribute to the accomplishment of the objectives of Brigham Young University, and in so doing to provide educational and research experiences which will help young men and women

- (1) to understand themselves and others,
- (2) to develop their capabilities,
- (3) to establish attractive and happy homes in which all facets of family living are integrated for the enrichment and strengthening of family life,
- (4) to accept responsibilities as family members in Church and community activities,
- (5) to earn a living and to make contributions in professions related to homes and families.

These aims are based upon the conviction that abundant living evolves primarily from the happy family. Such objectives have their roots deep within the culture of the Latter-day Saints. Family life is the matrix of spiritual development, the foundation of society, and the basic unit of the Kingdom of God.

A portion of the curriculum is adapted to the needs of men and women who do not carry major work in a department of the College of Family Living. Every student in the University is urged to elect at least one such course in order that he may become a better family member.

Scope. The experiences of family living involve the discoveries of science, the insights of the humanities and the fine arts, the inspiration of religion, and the enjoyment of recreation, all taught in other colleges of Brigham Young University. Other college listings are used liberally in order to integrate and organize educational experiences which will increase students' capacities to participate in effective family and community living.

To the extent that the needs of today's families are understood, course offerings in this college are related to those needs, and are prepared for both men and women students. Within the framework of the curriculum, the entire cycle of family life from infancy to old age is considered. Educational experiences are directed toward the realization of increased understanding of human development and human relationships and toward the attainment of increased maturity in personal, family, and community living.

Formal Instruction. The College of Family Living provides a valuable non-credit academic instructional program designed to assist students with the practical phases of living, such as purchase and preparation of food for individuals and for groups, daily tasks of management, use of equipment, care and selection of clothing, and other aspects of living.

The College of Family Living, through the Department of Homemaking Education, shares responsibility with University housing in the education of women students for living in Heritage Halls. (See the student housing section of this catalog.)

College of Family Living Requirements. All students registered in the

college should elect Homemaking Education 91 (Orientation to Family Living) during the first semester of the freshman year.

All students registered in the college shall elect three specified groups of courses (A from outside the college; B from within the college; and C from within the major department).

The courses in Group A, in addition to serving as a part of the group needed to meet General Education requirements of the University, provide a background for work in the college. These should be elected in the freshman and sophomore years. The courses in Group B will help familiarize the student with work in all departments of the college, a desired objective since all departments are involved in the activities of the home, and since subsequent employment of majors increasingly requires broad knowledge of family living subject matter.

Group A, courses in departments outside of the college: G-PS: Chemistry, 8 hours; Physics, 3 hours; G-BS: Bacteriology general, 3 hours; Zoology, 3 hours; (Botany may be substituted for zoology by majors in clothing and textiles or housing and home management.); G-SS: Psychology, 3 hours; G-HA: Art, 2 hours.

Group B, courses in departments within the college: A total of 12 semester hours outside of the major is required, including at least one course and at least three hours in each of the three departments outside of the major.

Group C, courses in the major department: A minimum of 35 hours must be earned within the major department.

Affiliation with the Merrill-Palmer School. The College of Family Living has a cooperative arrangement with the Merrill-Palmer School in Detroit, Michigan. At present we are privileged to send to the school several students a year. Students must be seniors or second semester juniors and are selected on the basis of scholarship, worthy representation of the Church and Brigham Young University, and the probable professional use of this experience. Credits earned there are accepted and allocated to the subject matter field by Brigham Young University.

Classes and discussion groups are small. Observation and experience are a vital part of the program. Among the special fields represented at Merrill-Palmer are adult education, child development, family life education, gerontology, home economics, marriage counseling, nursery education, nutrition, psychology, religion, and sociology. To spend a semester at the Merrill-Palmer School is a unique and rewarding experience.

Graduate Study. A student who has completed all requirements for the bachelor's degree is classified as a graduate student. The work of all graduate students is under the jurisdiction of the dean of the Graduate School. The College of Family Living provides opportunities for work toward the master's degree in human development and family relationships, and in food and nutrition. The Doctor of Philosophy degree may be obtained in the field of human development and family relationships.

Professional and Honorary Clubs

The **Home Economics Club** is affiliated with the Utah and the American Home Economics Associations. Membership is extended to all students interested in home economics.

The **H.D.F.R. Club** is primarily for those students who are majoring or minoring in human development and family relationships. However, the club also offers membership to students who have strong interests in the areas of family relations and the development of family members at various age levels. A program of social and professional activities is promoted throughout the year.

The **Omicron Nu** is a national home economics honor society whose object is to recognize superior scholarship and to promote leadership and research in the field of home economics.

Juniors and seniors are eligible for membership if they are fulfilling the requirements for the bachelor's degree with a major within the College of Family Living and have maintained superior scholarship.

Graduate students who meet all the qualifications are also eligible for election to membership.

Scholarships and Awards

Sophomores.

The **Home Economics Club Award** of approximately \$115.00 toward the combined first and second semester tuition is available each year to a woman student in the college who is an active member of the club and who has been of service to it for at least part of two academic years. Application must be made by March 15th to the College Scholarships and Awards Committee on forms available in the office of the dean of the college. Election will be made by club members by ballot. Applicants must have a grade-point average of 2.65 ("A"=4, "B"=3, "C"=2) or above with no "D" on the record; must have a total credit at the time of application of no more than 115 credit hours and must have earned the following amounts of credit: physical education, 3 hours; English, 9 hours (6 if this fulfills the freshman English requirement); chemistry, 9 hours; psychology, 5 hours; bacteriology, 4 hours; food and nutrition, 4 hours; and Health 130, 2 hours.

Juniors.

Elsie Maughan Bellsiton Award. Books and/or magazines of a professional or scientific nature of the student's choosing in the amount of \$25.00 will be awarded to a junior who has maintained a grade-point average of 3.0 or above, shows need, and possesses a high ethical character.

Elizabeth Cannon Sauls Scholarship. The sum of \$25.00 will be awarded to a deserving junior in the College of Family Living. The award is based on good grade-point average, need, good character, and professional potential.

Seniors.

The **Leah D. Widtsoe silver loving bowl** is awarded annually to a senior of sterling character who has made marked progress during her years of study, and who at the same time has rendered service to her classmates, her college, and the University.

The **Hazel Noble medal** is awarded annually to an outstanding graduating senior with fine womanly qualities and commendable professional attitude who applies to her daily living the knowledge acquired in her studies in the college.

The **Homemaking Education Senior Achievement Award** is given to a senior in the Department of Homemaking Education who is selected on the basis of her professional interest and growth, high scholastic standing, and her contribution to her chosen field.

The **H.D.F.R. Outstanding Senior Achievement Award** is given annually to two seniors in the Department of Human Development and Family Relationships selected on the basis of their high scholastic standing, marked progress in their field of study, and professional promise.

Graduate Students.

The **Walter Ellis Trunnell Award** is given to the graduate student whose research in connection with thesis or dissertation is judged to reflect the most original thinking and significant contribution to the improvement of family life and service to the Church.

College of Fine Arts

Conan E. Mathews, Dean (312 E)

The following departments are in the College of Fine Arts:

Art
Dramatic Arts
Music
Speech

The policy of the University has always provided for a liberal patronage of the fine arts. The organization of the College of Fine Arts in 1925 was the result of desire to offer students greater opportunities for better coordinated academic and professional growth.

With exceptionally well-prepared faculties, who have received the benefits of extended study in recognized schools and art centers, and adequate physical equipment in all departments, the College of Fine Arts has become favorably known for the artistic and academic work done under its direction.

Any course offered in this college that leads to the baccalaureate degree is the cultural equivalent of other college courses offered in the University, differing from them mainly in respect to the emphasis placed on the study of the fine arts.

Majors are selected from the work offered in the departments; minors may be selected from them or from other departments in the University which offer allied work.

Department of Art

The preparation of creative leaders in the various fields of the plastic and graphic arts and the education of appreciative audiences for these arts constitute the twofold purpose of the Brigham Young University Art Department.

Optional programs leading to a major in art are planned for those who are preparing for careers in art education, commercial art, interior design, painting, printmaking, sculpture, and ceramics, or for those who are pursuing a general course in art. Curricula for commercial art majors and those who are planning to teach art in the secondary schools may lead either to a Bachelor of Science or to a Bachelor of Arts degree. Students who elect programs in the remaining areas work toward a Bachelor of Arts degree.

Master of Arts and Master of Science degrees are offered in the fields of painting and sculpture and in design, which may include ceramics, crafts, interior design, print-making, and commercial art.

A collection of more than seven thousand original works of art, both by American and by European artists, is owned by the University. Regularly changing exhibitions of work by contemporary artists also contribute to general appreciation and to the instructional program. Exhibitions of students' works are held regularly for analysis and criticism, and for furthering professional growth. The Art Department sponsors a studio guild, an organization by and for the students, through which special lectures, demonstrations, and trips to galleries contribute to growth and interest.

Department of Music

The main objectives of the Department of Music are (1) to help each student attain through music the skills and proficiencies of an artist while he is gaining a broad general education; (2) to develop talent to the highest degree possible; (3) to train music teachers for a noble profession; and (4) through association with distinguished artists and teachers, to help all B.Y.U. students acquire discriminating taste and sound critical judgment.

The bachelor's degree is available in music theory, applied music, and music education. The master's and doctor's degrees may be taken in musicology, music theory, and music education.

Students who desire to become composers, arrangers, or music copyists, or who wish to teach theory of music, should pursue a major in music theory.

Every music major studies a certain amount of applied music in order to develop proficiency on his major instrument or in voice. Students who wish to become skilled performers in order to qualify themselves to assume positions in the concert or professional world should major in applied music.

Prospective school teachers have the opportunity to major in vocal or instrumental music. Each program is designed to emphasize the essential aspects of preparation for teaching in public schools. The master's degree program in elementary or secondary school music is designed to prepare teachers, supervisors, and music consultants who can help classroom teachers teach music effectively.

A cultural atmosphere seldom equaled is provided through concerts and recitals, including visiting groups and artists. The Department of Music sponsors more than 150 concerts and recitals each year. This does not include the lyceum service provided by studentbody activities and by lyceum committees.

There is a musical organization for every student at B.Y.U. who is interested in singing, or playing a musical instrument.

Departments of Dramatic Arts and Speech

These departments are combined, and cooperate in order to develop a broad but intensive program leading to the bachelor's and master's degrees to fit the needs of the general college student who wishes to develop his own ability of expression and for the student seeking professional training in oral communication arts. Divisions for specialization are theatre and dramatic arts, public address, speech and hearing rehabilitation, radio and television, and speech for teachers in elementary and secondary schools.

Twelve major dramatic productions and many one-act and experimental plays constitute the annual offerings. Recently the departments were highly honored in being selected by the U.S.O. to play at Far Eastern military bases including Japan, Okinawa, Korea, the Philippines, Guam, and Hawaii.

In addition to providing service courses in public speaking, discussion, and debate for the general student, the public address area provides training to support the pre-law, business, and teaching professions. Inter-collegiate activities include participation in approximately thirty debate trips to many parts of the nation. In February of 1960 a B.Y.U. team won first place at the Seventh Annual Harvard Invitational Intercollegiate Debate Tournament, and in January of 1961 a B.Y.U. team won the Western Division trophy for debate.

In meeting the challenge of the increasingly important role of radio and television in society, the departments have established a fine radio and television training laboratory. Professional training includes operation of radio station KBYU and television studios.

An ever-increasing number of speech majors are securing teaching certificates both for elementary and for secondary schools and in areas where there is a demand for trained speech and hearing therapists.

General College

Wayne B. Hales, Dean (253A JK)

General College has been added to the academic structure of Brigham Young University to meet more adequately the objectives and changing educational demands of the University. General College is designed to help students develop responsible citizenship in the Church and in the state, to acquaint them with their cultural heritage, and to lay the foundations for useful and productive lives in a democratic society. To achieve these objectives, General College has been organized to take care of the educational needs of students through the following:

- The Department of Industrial Education
- The Technical and Semi-Professional Institute
- The Division of Provisional Registration
- The Skills Improvement Service

THE DEPARTMENT OF INDUSTRIAL EDUCATION

Students interested in industrial education may major in industrial arts education (teacher training), or in one of the industrial technology fields and receive a four-year bachelor's degree. The major in industrial arts education will also receive a secondary teaching certificate. A wide variety of courses is offered in mechanical drawing, electrical work, metal work, woodwork, and other industrial subjects. A graduate program is also offered leading to a master's degree in industrial education. For further information regarding this program see the Department of Industrial Education section of this catalog.

THE TECHNICAL AND SEMI-PROFESSIONAL INSTITUTE

Students desiring to obtain technical training in special fields of agricultural technology, business technology, engineering technology, industrial technology, or genealogical technology may register for one of the two-year programs offered in the Technical and Semi-Professional Institute. Upon completion of one of these prescribed programs the student will receive a two-year technical certificate indicating his proficiency in that field. For further information regarding this program see the Technical and Semi-Professional Institute section of this catalog.

DIVISION OF PROVISIONAL REGISTRATION

Each year a large number of students come to the University unsettled in their minds on a major field. These students will register in the Division of Provisional Registration. In this division the student is assigned a registration adviser who serves as his adviser on academic problems during the one or two years he is in provisional registration. Therein the students will pursue outlined courses in general education. At the end of one or two years of study they must select a major, transfer to the appropriate college, and continue studies toward a baccalaureate degree.

Ten curricula are provided for a student who may have an interest in a given field. These curricula are:

Biological Science, Pre-medical and Pre-dental

A student having an interest in the fields of botany, bacteriology, and zoology or in the pre-dental and pre-medical areas should register for the following courses. He may transfer to the major of his choice at any time during his freshman or sophomore year and continue his work toward a baccalaureate or other professional degree.

Freshman Year			Sophomore Year		
	F	S		F	S
Theology 131, 132	2	2			
English 111, 112	3	3			
Physical education	$\frac{1}{2}$	$\frac{1}{2}$			
Mathematics 111	5		Religion	2	2
Zoology 105		3	Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Chemistry 111, 112	4	3	Chemistry 113, 221	3	3
Health 130		2	Physics 201, 202	4	4
History 170		3	Zoology 176 or 376	3	
Social science or			Zoology 212, 213	4	4
humanities	2		Electives	1	4
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$

Business

The following is a suggested two-year program for students who have a general interest in business but are undecided about the particular area in which to major. With the exception of English composition and physical education, which must be taken the first year, the freshman and sophomore courses shown may be taken interchangeably. Students may transfer into the College of Business at any time.

Freshman Year			Sophomore Year		
	F	S		F	S
			Religion	2	2
			Economics 274		
			(humanities)		3
			History 170	3	
English 111, 112	3	3	Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Theology 131, 132	2	2	Biological science		3
English (literature)		3	Business Mgt. 315	2	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Business Mgt. 347		3
Physical science**	3		Statistics 231		3
Health 130	2		Economics 112	2	
Economics 111	3		Business Mgt. 205		2
Accounting 201 or 211 ..		5	Math 101 or		
Electives	3	3	Statistics 131*	3-2	
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$	Electives	4	
			Total Hours	15 $\frac{1}{2}$ -16 $\frac{1}{2}$	16 $\frac{1}{2}$

*With 1 $\frac{1}{2}$ years of high school algebra, these courses may be omitted.

**Any of the courses listed under physical science of the General Education requirements will fill this requirement.

Education

A student having an interest in elementary education should register for these courses. At the end of his freshman or sophomore year he may transfer to the College of Education without loss of credit and continue his studies toward a Bachelor of Science or Arts degree.

A student having an interest in secondary education should register for the appropriate courses in other areas of provisional registration. For example, a person wishing to teach biological science in the secondary schools should register in courses under biological science, pre-medical, and pre-dental. Or, if a person wishes to teach industrial arts, he should register in the Department of Industrial Education. At the end of his sophomore year he may transfer to the appropriate college or to the College of Education without loss of credit and continue his studies toward a Bachelor of Arts or Science degree.

Freshman Year			Sophomore Year		
	F	S		F	S
Theology 131, 132	2	2	Religion	2	2
English 111, 112	3	3	Music 102, 237	2	2
Physical education*	1½	1½	Economics 101	3	
Physical Science			Psychology 111	3	
101, 102	3	3	Physical science*	2	
History 170	3		Physical education*	1½	1½
Art 110, 226	2	2	Botany 101 or		
Health 130	2		Zoology 105		3
Speech 121		2-3	Anthropology 101 or		
Bacteriology 121		3	Geography 120	3	
			English or		
			American literature ..		3
			History 360		3
			Electives	2	3
Total Hours	15½	15½-16½	Total Hours	17½	16½

*These courses must be selected from those listed under "Arts and Sciences Major for Elementary Teachers," shown in the section on "Preparation of Elementary School Teachers," in the College of Education.

Family Living

Students in General College may take any courses from the 100 and 200 series in the various departmental offerings for which there are no prerequisites or for which they have already taken the prerequisites. This program is designed to help students prepare for marriage and/or to count toward a baccalaureate degree in the major of their choice. It is not designed as a vocational program.

Freshman Year			Sophomore Year		
	F	S		F	S
Theology 131, 132	2	2	Religion	2	2
English 111, 112	3	3	H.D.F.R. 210		3
Chemistry 101	4		Psychology 111	3	
Chemistry 102		4	English literature	2	
Art 101 or 110	2		Nursing 288	2	
Homemaking Ed. 91		0	Health 130	2	
Clothing and			Zoology 105	3	
Textiles 110	2		Food and Nutrition		
Physical education	1½	1½	110 or elective	2	
Physics 100		3	Housing and Home		
Bacteriology 121		3	Mgt. 220		2
Electives	3	2	Food and Nutrition 255		3
			Clothing and		
			Textiles 165		4
			Clothing and		
			Textiles 260		3
			Physical education	1½	1½
Total Hours	16½	17½	Total Hours	16½	17½

Fine Arts

The following is a suggested sequence of courses for students who have interests in the fields of art, music, speech, and dramatic arts. At the conclusion of the freshman or the sophomore year, the student should transfer to the College of Fine Arts and continue his work toward a baccalaureate degree.

Freshman Year			Sophomore Year		
	F	S		F	S
			Religion	2	2
			Foreign language, 1st year	4	4
Theology 131, 132	2	2	Physical education	½	½
English 111, 112	3	3	Psychology 111 or Sociology 111	3	
Physical education	½	½	History 170		3
Health 130	2		Fine arts electives**	8	8
Physical sciences*	3	3			
Fine arts electives**	7	8			
<hr/>			<hr/>		
Total Hours	17½	16½	Total Hours	17½	17½

*Any of the courses listed under physical science of the General Education requirements will be accepted.

**Art 101, 122, and electives from 227, 233, 239, 250, 256, 263; Music 101, 102, 105 (or private lessons), 170 (or private lessons or other choral group); Speech 101, 121, and 241. It is strongly recommended that a student decide whether or not to major in music not later than the end of his first year.

Humanities

It is anticipated that the student who selects the program suggested below will have a general interest in the field of humanities, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the General Education group requirements, will provide training in a foreign language in anticipation of the B.A. degree, and will offer a generous sampling of humanities courses to assist the student in selecting a major. See the College of Humanities and Social Sciences section of this catalog for the new humanities major program.

Freshman Year			Sophomore Year		
	F	S		F	S
Theology 131, 132	2	2	Religion	2	2
English 111, 112	3	3	Physical education	½	½
Physical education	½	½	Foreign language	4	4
Humanities 101	3		Biological science		
Foreign language	4	4	electives**	3	3
History 170*		3	English 250	3	
Health 130		2	Social science		
Physical science			electives**	2-3	3
electives**	3	3	Humanities electives**	2-3	5
<hr/>			<hr/>		
Total Hours	15½	17½	Total Hours	16½-18½	17½

*Students who anticipate majoring or minoring in history, journalism, or political science, should take History 120 or History 121 or Political Science 110 instead of History 170.

**Students should be sure that the courses selected in physical science, biological science, social science, and humanities fill General Education credit in these areas.

Nursing

Any student who is interested in nursing and trying to determine her major should confer with the dean of the College of Nursing or an adviser in the College of Nursing regarding the program and opportunities. Only one semester of courses will be offered in General College for those who are interested in nursing.

Freshman Year			
	F		
Theology 131	2	Chemistry 101	4-5
English 111	3	Psychology 111	3
Physical education	$\frac{1}{2}$	Zoology 105	4
		Total Hours	$16\frac{1}{2}$ - $17\frac{1}{2}$

Physical Education

The following is a suggested sequence of courses for students who have interests in the fields of recreation, physical and health education, athletics, and youth leadership. When a decision is reached to major in one of these areas, the student should immediately transfer to the College of Physical Education and continue his work toward a baccalaureate degree. He should consult the sections of the catalog dealing with those departments for details for majors in health, physical education, recreation, and youth leadership.

Men

Freshman Year		Sophomore Year	
	F		S
Theology 131, 132	2	Religion	2
English 111, 112	3	Humanities	2
Physical Education		Physical Education	
231, 232	1	233, 234, 235	1
Physical science*	3	Zoology 264	5
Health 130		Sociology 111	3
History 170		Psychology 111	3
Humanities	2	Physical science*	3
Bacteriology,		Instruction 301	1
botany or zoology	3	Health 121	2
Minor subject area	2	Minor subject area	2
Physical Education		Physical Education 182..	$\frac{1}{2}$
180, 181	$\frac{1}{2}$	Physical Education	
Physical Education		290, 291	0
190, 191	0	Elective	2
Elective	1		
Total Hours	$16\frac{1}{2}$	Total Hours	$17\frac{1}{2}$

*Any of the courses listed under physical science of the General Education requirements will be approved.

Women

Freshman Year		Sophomore Year	
	F		S
Theology 131, 132	2	Religion	2
English 111, 112	3	Physical Education	
Physical Education		224, 245	2
241, 242	2	Physical Education	
Physical Education		181, 182, 183	1
390, 391	0	Physical Education	$\frac{1}{2}$
Physical Education		180, 160	$\frac{1}{2}$
187, 188, 189	1	Physical Education	
Physical sciences*	3	390, 391	0
History 170	3	Zoology 105, 264,	
Health 130		Bacteriology 121 or	
Humanities	2	Botany 101	5
Elective	2	Psychology 111	3
		Humanities	3
		Minor subject area	2
		Health Education 362	2
		English literature	3
		Physical education	
		electives	1
Total Hours	16	Total Hours	$17\frac{1}{2}$

*Any of the courses listed under physical science of the General Education requirements will be approved.

Physical and Engineering Sciences

The following course of study is recommended for one or two years. At the end of either, the student may choose a major, transfer into the College of Physical and Engineering Sciences, and pursue his education to the completion of a Bachelor of Science degree in chemistry, geology, mathematics, or physics.

Freshman Year*			Sophomore Year		
	F	S		F	S
Mathematics 111, 112**	5	5	Mathematics 213, 214	5	5
Chemistry 111, 112	4	3	Physics 211, 213	4	4
English 111, 112	3	3	Physics 213, 214	1	1
Theology 131, 132	2	2	Religion	2	2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Health 130		2	History 170	3	
Electives	3	3	Electives (biology and/or humanities)	2	5
Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$

*Those who may later choose an engineering curriculum should take the freshman year as suggested, substituting Chemistry 105 and 106 for Chemistry 111 and 112, and choosing as electives C.E. 101, 102, and M.E. 100.

**All entering freshmen intending to take mathematics must take the mathematics placement test before or at the time of registration.

Social Science

It is anticipated that the student who selects the program suggested below will have a general interest in the social sciences, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the General Education group requirements and should permit a generous enough sampling of social science courses to assist in selecting a major.

Freshman Year			Sophomore Year		
	F	S		F	S
Theology 131, 132	2	2	Religion	2	2
English 111, 112	3	3	Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Economics 101 or 111	3	
Health 130	2		Political science	3	
Sociology 111 or 112	3		Geography 101 or 120 ..		3
History 170*	3		Anthropology 101		3
Psychology 111		3	English literature	2	2
Electives in physical science**	3	3	Electives in foreign language or humanities**	4	4
Elective in biological science**		2-3	Elective in biological science**	3	
Elective in humanities**		2-3	Elective in social sciences		3
Total Hours	16 $\frac{1}{2}$	17 $\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$

*Students who anticipate majoring in economics, history, journalism, or political science should take History 120 or History 121 or Political Science 110, instead of History 170.

**Students should be sure that the courses selected in physical science, biological science, and humanities fill General Education credit in these areas.

If a student completes one of these curricula, he may transfer into one of the other colleges of the University with a minimum of lost time, credit, or standing, and will advance as a junior in the college of his choice without professional handicap.

The same entrance requirements as have been set up for the rest of the University are required in Provisional Registration.

Skills Improvement Service

Students who are admitted to the University on academic warning come under the jurisdiction of the Skills Improvement Service. The purpose of this program is to help these students develop abilities and aptitudes which will allow them to compete effectively with other students at Brigham Young University. This will mean that they will have to learn to read, write, speak, think, and study more effectively. For more information about this program see the section of this catalog entitled Special Academic Programs.



College of Humanities and Social Sciences

Reed H. Bradford, Acting Dean (329 McKay)

The following departments are in the College of Humanities and Social Sciences:

- Archaeology
- Economics
- English
- Geography
- History
- Journalism
- Languages
- Political Science
- Psychology
- Sociology and Anthropology

The most fascinating study has always been man—what he has done, what he has thought, what he has said and how he has reacted to problems confronting him.

The humanities seek to discover, preserve, and disseminate the best of man's thoughts and creations. The social sciences study the activities and relationships of man: his nature, his power to communicate, his environment, what motivates him, how his activities progress, the institutions he has created, and the important social and governmental problems with which he must deal. The humanities and the social sciences are therefore related disciplines whose purpose is to help man to live in the most intelligent and satisfying manner.

The humanities are the study of what man has created, including his language, literature, art, and the record of his activities as revealed in archaeology and history. The social sciences are younger disciplines utilizing the modern methods of science: controlled observation, laboratory experimentation whenever possible, statistics, and analytical reasoning. Their potential significance for a troubled world is tremendous.

There are two large purposes for which the instructional program of the College of Humanities and Social Sciences is designed. One is the provision of a broad and liberal education, to assist those who obtain it to receive in the fullest measure the values to be found in the complex civilization of today and to contribute to the enlargement of those values in an effective and acceptable manner. The other is the preparation of a more limited group as qualified contributors to the discovery of additional truth to add to our present heritage and as capable professional participants in the productive affairs of daily living.

Courses intended to contribute to the first purpose are offered as a service to all students in the University. Career programs for those who choose to do their major work in this college are offered in each department. Advisers stand ready to consult with students in the selection of studies that will contribute most effectively to a broad education and to specialized training in each department.

Pre-Legal Course

There is no single prescribed pre-law program. A student may major in any one of several fields as basic preparation for law school. The prime requisite of a successful lawyer is a well-disciplined mind. It must be capable of embracing complex situations—identifying subtle distinctions and appraising arguments. It must be able to weigh opposing considerations and be capable of sustained effort over long periods of time. To produce such a mind, the college schedule should include courses intended to expand the mental powers of a student to the utmost and to bring about precision of thought.

The following important advice given by a leading law school may well be noted by pre-legal students:

"Few ideas are more fallacious or harmful than the notion that it is possible to dawdle through high school and college and then make the adjustment to higher standards promptly upon entering the professional school. Essential habits of concentration and effective methods of study must be acquired and developed during the pre-legal years."

In addition to the courses in general education prescribed by the University, it is suggested that a satisfactory pre-legal course might be selected from the following fields: English, political science, history, economics, accounting, psychology, speech, sociology, and mathematics.

Because of the growing tendency of law schools either to recommend or demand that the entering student have a B.A. or B.S. degree, the pre-legal student should plan his freshman and sophomore programs toward the acquisition of a bachelor's degree.

Hispanic American Studies Major

Supervisor: Lee B. Valentine (341 McKay)

The Hispanic American Studies Program is an interdepartmental program within the College of Humanities and Social Sciences which provides a major or a combined major and minor leading to the A.B. degree; it does not provide a minor alone. The program is designed to meet the professional and cultural goals of persons especially interested in Latin America whose needs are not served by a major in one department. The Language Department offers training in the literature and language of Latin America; the Geography Department, the geography and economy of the area; the Political Science Department, the governments and political institutions. Certain persons who seek employment in business or governmental agencies in Latin America, or who for other reasons are interested in the area, may best prepare themselves professionally by broad study in the literature, language, culture, geography, politics and economy of the region. Such persons may enroll in the Hispanic American Studies Program. They cannot expect to receive the depth in one subject which a conventional major would give them, but the greater breadth and the comprehensive understanding of the area itself will compensate for the sacrifice of depth in a single subject.

Requirements for a major:

- (1) 22 hours in Spanish language courses from the "A" list below, 10 of which are upper division.
- (2) 4 hours or two courses of specified upper division classes in Spanish-American or Spanish literature.
- (3) 4 hours or two courses of specified classes from the "A" lists in each of three of the following subjects: anthropology, archaeology, geography, history, and political science.

The minimum required for a major is 38 hours, but it may be more, depending on the classes elected. Twenty-four hours must be upper division.

Requirements for a combined major and a minor:

- (1) Completion of the above requirements for a major.
- (2) 4 hours or two courses of specified classes from the "A" list of one of the listed subject-matter fields not included in the major.
- (3) 5 hours in at least three courses from the "B" lists of the six fields included in the major and minor; must be approved by supervisor.

The minimum for a major and minor is 47 hours, but it may be more. Thirty-three hours must be upper division.

The supervisor may approve satisfactory equivalents, in consultation with the

departments. However, in no case shall the required totals be less than these stated above.

Following are the courses in the program:

	Hours
Anthropology	
"A" list:	
Anthropology 246. The Growth of Culture in the New World	2
Anthropology 418. Native Peoples of Central and South America..	2
Archaeology	
"A" list:	
Archaeology 360. Ancient Civilizations of the New World	3
Archaeology 440. Archaeology and Early History of Middle America	3
Archaeology 480. Archaeology of Andean South America	2
"B" list:	
Archaeology 590. Recent Developments in Archaeology	4
Geography	
"A" list:	
Geography 455. Latin America	3
Geography 490. Readings	1
"B" list:	
Geography 491. Readings	1
Geography 556. South America	2
Geography 557. Caribbean Area	2
History	
"A" list:	
History 351. Colonial Latin America	2
History 352. National Latin America	2
"B" list:	
History 334. Spain	2
History 353. Mexico	2
History 498. Readings	TBA
Political Science	
"A" list:	
Political Science 560. Governments of Latin America	2
Political Science 565. International Organizations	2
"B" list:	
Political Science 498. Readings	1-2
Spanish (language)	
"A" list:	
Spanish 101, 102. First Year Spanish	4 ea.
Spanish 201. Second Year Spanish Reading and Conversation	4
Spanish 301. Selected Readings	4
Spanish 321, 322. Advanced Composition and Conversation	3 ea.
(In exceptional cases approval may be granted to substitute Portuguese 321 and 322 for Spanish 321 and 322.)	
Spanish (literature)	
"A" list:	
Two 3-hour courses from the following series:	
Spanish 451, 452. Survey of Spanish-American Literature and Culture	3 ea.
Spanish 441, 442. Survey of Spanish Literature and Culture	3 ea.
(In exceptional cases approval may be granted to substitute Portuguese 431 or 432 for one of these two courses.)	
"B" list:	
Any courses in the "A" list above not taken for the major are recom- mended for the minor.	

Humanities Major

Supervisor: Bruce B. Clark (305 McK)

For capable students in the humanities whose educational objectives are not met by a conventional major in one department and a minor in another, the college offers an interdepartmental major and minor, 50 semester hours in art, history, literature (including foreign literature), and music, and will be advised to support these subjects with courses in philosophy, the social sciences, and other related areas. Students will also complete a foreign language program sufficient for the B.A. degree. Of the 50 semester hours required in art, history, literature, and music, at least 25 must be upper-division work.

The educational and vocational goals of most students are best served by a conventional major and minor. A selected few students, however, will profit from broader training which includes intensive work in several of the humanities subjects. Such a program has broad cultural value. Through it students may acquaint themselves with the relationships among the various humanities subjects and obtain a valuable liberal education consisting of substantial, well-balanced work in the broad field of the humanities.

Students may enter the humanities program only with permission of the supervisor and should register each semester thereafter under his direction.

1. Required Courses for the Major in Humanities: Hours

a. Humanities 101. (To be taken in the freshman or sophomore year) 3

b. Art—at least 8 semester hours selected from the following (courses preceded by an asterisk are especially recommended):

Art 101.	Introduction to Art	2
*Art 108.	General Art	2
Art 110.	Design in Everyday Life	2
*Art 122.	Basic Figure Drawing	3
*Art 306.	Art History and Appreciation	3
*Art 307.	Contemporary Art	2
Art 308.	American Art	2
Art 403.	Ancient and Primitive Art	2
Art 405.	Medieval and Renaissance Art	3
Art 501.	Aesthetics	2

Note: Humanities majors are also encouraged to take one or two of the following courses: Art 227, 233, 239, 250, 256, 263.

c. English—at least 14 semester hours selected from the following courses (English, American, and comparative literature (courses preceded by an asterisk are especially recommended):

*English 251 or 250.	Fundamentals of or Introduction to Literature	3
English 252.	Introduction to Poetry	2
English 253.	Introduction to Drama	2
English 260.	Masterpieces of American Literature	3
English 270.	Masterpieces of English Literature	3
*English 282 or 382 or 582.	Shakespeare	2 or 3
English 331, 332, 333.	The English Novel	2 ea.
English 335, 336.	The American Novel	2 ea.
English 338.	The European Novel	3
English 345.	The Spirit of Tragedy in Literature	3
*English 355, 356, 357, 358.	World Classics	3 ea.
English 359.	The Short Story	2
*English 361, 362, 363.	American Literature	3 ea.
English 366.	Modern Poetry	2
*English 371, 372, 373, 374, 375.	English Literature	3 ea.
English 376.	Twentieth Century English Literature	2

English 481.	Chaucer	3
English 483.	Milton	2
English 541, 542, 543.	English and American Drama	2 ea.
English 550.	The Criticism and Appreciation of Literature	3

d. History—at least 10 semester hours selected from the following:

History 110, 111.	World Civilization	3 ea.
History 304.	Greek History and Civilization	3
History 307.	Roman History and Civilization	3
History 312.	Renaissance and Reformation	2
History 373.	American Intellectual and Cultural Growth	2
History 503.	Literary History of the Greeks	2
History 509.	Literary History of the Roman Empire	2
History 512.	Medieval Thought and Culture	2
History 528.	Modern European Thought and Culture	2
History 548.	Culture of Asia	2

e. Languages—at least 6 semester hours selected from the following:

French 431, 432.	Masterpieces of French Literature	3 ea.
French 441, 442.	Survey of French Literature and Culture	3 ea.
German 431, 432.	Masterpieces of German Literature	3 ea.
German 441, 442.	Survey of German Literature and Culture	3 ea.
Italian 431, 432.	Masterpieces of Italian Literature	3 ea.
Latin 441, 442.	Survey of Latin Literature and Culture	3 ea.
Portuguese 431, 432.	Masterpieces of Brazilian and Portuguese Literature	3 ea.
Russian 431, 432.	Masterpieces of Russian Literature	3 ea.
Spanish 431, 432.	Masterpieces of Spanish and Spanish- American Literature	3 ea.
Spanish 441, 442.	Survey of Spanish Literature and Culture	3 ea.
Spanish 451, 452.	Survey of Spanish-American Literature and Culture	3 ea.

f. Music—at least 8 semester hours selected from the following:

Music 103.	Survey of Music Literature	2
Music 484, 485.	History of Music	3 ea.
Music 501.	Music in America	3

Note: Humanities majors are also encouraged to take one or two of the many participation courses offered by the Music Department.

2. Recommended Courses in General Education for the Major in Humanities:

a. At least 7 semester hours selected from the following:

Church History 453.	World Religions	2
Church History 555, 556.	Comparative World Religions	2 ea.
Philosophy 380.	Survey of Philosophy	2
Philosophy 482.	Ethics—Plato to Dewey	2
Philosophy 483.	Problems of Knowledge	2
Philosophy 484.	Types of Religious Philosophy	2
Philosophy 580, 581.	History of Philosophy	3 ea.
Philosophy 582.	Contemporary Ethics	2
Philosophy 584.	Current Trends in Philosophy of Religion	2
Philosophy 585, 586.	Contemporary Philosophy	2 ea.
Philosophy 587.	Scholasticism, Humanism and Mysticism	2

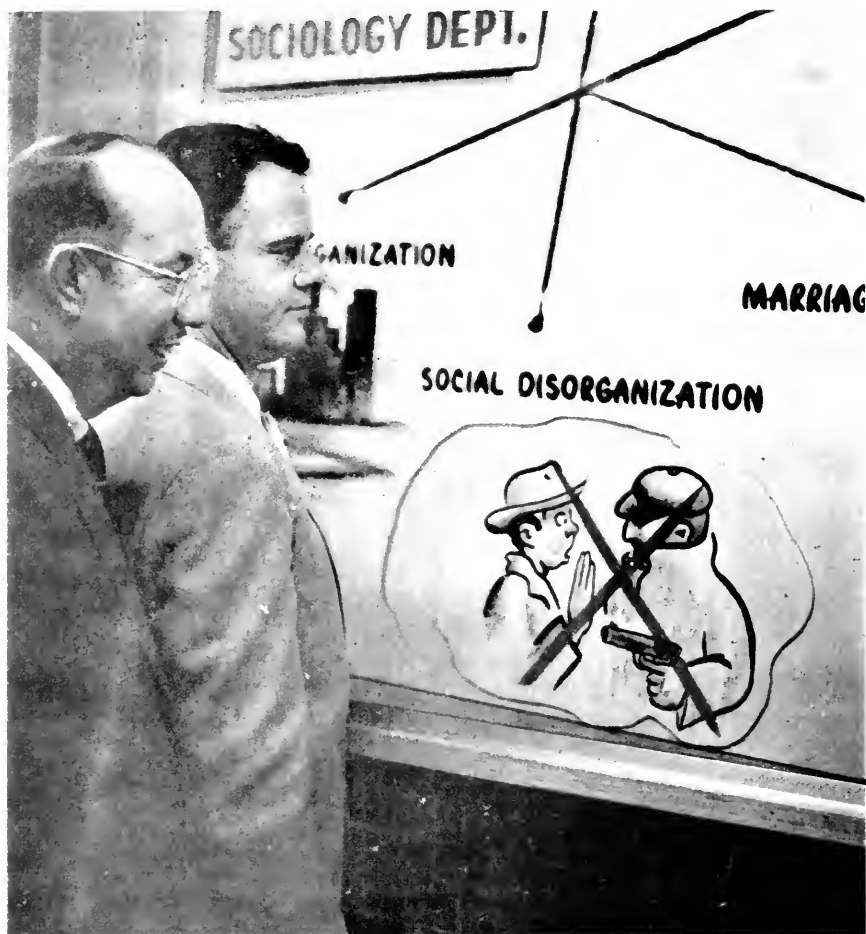
b. Courses selected as desired from the following:

Anthropology 101.	Introductory Anthropology (G-SS)	3
Anthropology 111.	Cultures of the World (G-SS)	3
Anthropology 241.	The Growth of Culture in the Old World (G-SS)	3

Anthropology 246. The Growth of Culture in the New World	2
Archaeology 310. General Historical Archaeology: Near East and Biblical (G-HA)	3
Archaeology 318. General Historical Archaeology, II: Classical and Christian	2
English 350. The Bible as Literature (G-HA)	2
Geography 120. Geography in World Affairs (G-SS)	3
Geology 101. Introduction to Geology (G-PS)	2
Geology 103. Life of the Past (G-PS)	3
Psychology 350. Introduction to Social Psychology (G-SS)	3
Psychology 550. Psychology of Personality (G-SS)	3

3. Recommended Courses Not in General Education for the Major in Humanities:

Archaeology 200. Introduction to Archaeology	2
Political Science 301. The Development of Political Thought	3
Psychology 540. Abnormal Psychology	3
Psychology 552. Personality: Culture and Society	3
Sociology 405. Sociological Principles	3



College of Nursing

L. Bernice Chapman, Dean (2240 SFLC)

The basic collegiate program in nursing prepares young men and women as professional nurses qualified to function as leaders of the nursing team and to fill beginning positions in all clinical areas of nursing: maternal and child health, medical-surgical, public health, and psychiatric nursing. It is expected that these nurses will function productively in contributing to comprehensive patient care, prevention of illness, and promotion of health through working with patients and with professional and community groups. The program also endeavors to increase an awareness of spiritual, social, and civic responsibilities and the understanding of human behavior. Nurses so trained should enjoy a more satisfying personal, family, and community life, consistent with the philosophy of the Church of Jesus Christ of Latter-day Saints.

The curriculum of the College of Nursing is organized to provide a balance of general and professional education. General education courses which partially fulfill University requirements are given in the first semester. Beginning in the second semester, courses in professional nursing are correlated with general education. Concepts of communications, mental health, pharmacology, nutrition, professional ethics, health teaching, interpersonal relationships, and spiritual values are integrated throughout the program.

The course of instruction covers four academic years and one or two summer terms. Clinical practice is a closely supervised laboratory experience with theory courses given concurrently. At the completion of the program the student receives a Bachelor of Science degree and is eligible to take the state examinations for the license to practice nursing as a registered nurse and to use the title R.N. She is eligible for Public Health Nursing Certification.

Instructors are full time University faculty members and have general and professional educational backgrounds consistent with the academic rank they hold. The College of Nursing is accredited by the National League for Nursing Accrediting Service and is approved by the Representative Committee for the Practice of Nursing in Utah.

Requirements

Admission. All applicants must meet University admission requirements. Prospective students are advised to take three and preferably four units of English, one unit of algebra (a unit of geometry is desirable), and a unit of chemistry and/or a unit of biology, preferably both.

A student should register in the College of Nursing upon entrance to B.Y.U., but may enroll in General College for the first semester in the prescribed courses for students of nursing. In order to continue in nursing the student must then transfer to the College of Nursing. Personal interviews with a faculty member and completion of special forms are required during the first semester at the University.

Progression. Continuance in the College of Nursing will be determined by the health records, adaptability to nursing as evidenced by attitudes and skills, and University grades. The grade average requirements are as follows:

- a. First semester freshman students must make a 2.00 ("C") grade average.
- b. Second semester freshmen must make a 2.00 grade average. Students making a 1.90 to 2.00 average in either the second semester or summer term may continue their registration on probation.
- c. The cumulative grade average for freshman students at the beginning of the second year must be 2.00. Students making a 1.90 to 2.00 average may

continue registration on probationary status during the first semester of the second year.

An average grade of "C" (2.00) must be maintained each semester to remain in the College of Nursing.

Graduation. Candidates for a degree must fulfill the University requirements for graduation. It shall be the student's responsibility to meet these requirements. The program provides for a combined major and minor in nursing.

Advisement

Each student seeking registration in the college has a faculty adviser who will help in the selection of courses and the planning of a schedule. It is desirable to consult with the adviser as early as possible in order to avoid lengthening the program unnecessarily. Sequence courses in chemistry and zoology necessitate beginning the program in the summer or first semester. The adviser will check the student's academic progress and help him use the resources of the University to the greatest advantage.

Assistance in program planning during the time the student is determining his major interest is available through the College of Nursing office.

Transfers. For information on transfers from another college within the University, or admission to the College of Nursing from another institution, the student should consult with the dean of the College of Nursing.

Fees and Scholarships

Total educational costs are borne by the student. See the catalog section titled "University Fees" for listing of general University expenses. To these the student should add the cost of uniforms. An itemized estimate of the costs to a student in the College of Nursing is available upon request.

The University policy concerning scholarships for leadership and academic standing are applicable to all students in the College of Nursing. After the freshman year a few special scholarships are available for nursing students with demonstrated financial need.

College Organizations

The Brigham Young University Student Nurses' Association is affiliated with the Utah and American Student Nurses' Association. This is a professional organization for students in the College of Nursing. Membership is extended to all students enrolled in nursing. The goals of the organization are to promote social, cultural, and educational activities; to foster cooperation and good fellowship; and to maintain the scholastic and moral standards of the University. Regular meetings are held each month alternating between Provo and Salt Lake City. Representatives of the local association attend the state association meetings and the national meetings. Association members have opportunities to develop leadership abilities, acquire professional attitudes and knowledge, and gain friends through working together.

Educational Facilities

Students use the same facilities and have the same cultural opportunities as all other students on the campus. The newest and most effective teaching aids and equipment are provided in the College of Nursing laboratories and classrooms. The facilities utilized for nursing experience change from year to year depending upon the needs of the students and the learning experiences selected by the faculty. At present, clinical experience is provided in the Latter-day Saints Hospital in Salt Lake City, the Primary Children's Hospital in Salt Lake City, Utah Valley Hospital of the Church of Jesus Christ of Latter-day Saints in Provo, Utah State Hospital in Provo, Utah City-County Health Department in Provo, Salt Lake City Health Department, Salt Lake County Health Department, and other civil agencies. The hospitals are approved by the Joint Commission for the

Accreditation of Hospitals, which is an organization sponsored by the American Hospital Association, American College of Surgeons, American Medical Association, and American College of Physicians.

The Latter-day Saints Hospital in Salt Lake City has a capacity of 470 adult beds and 100 bassinets. It provides clinical fields for the practice of medical, surgical, operating room, obstetrics, and pediatric nursing.

The Primary Children's Hospital in Salt Lake City with a bed capacity of 110, including an isolation unit of 12 beds, provides experience in the care of the child.

The Utah Valley Hospital of the Church of Jesus Christ of Latter-day Saints has a current capacity of 160 beds and 36 bassinets. At the present time these facilities are used by the college for the practice of beginning nursing skills and for senior nursing experience.

The Utah State Hospital in Provo, with a bed capacity of slightly more than 1,000, provides experience in psychiatric nursing.

The Utah City-County Health Department, the Salt Lake City Health Department, and the Salt Lake County Health Department provide a generalized public health nursing program and offer field experience in nursing.



College of Physical and Engineering Sciences

Armin J. Hill, Dean (294 ESC)

The College is divided into nine departments:

Air Science
Chemical Engineering Science
Chemistry
Civil Engineering Science
Electrical Engineering Science
Geology and Geological Engineering Science
Mathematics
Mechanical Engineering Science
Physics

The Department of Air Science (AFROTC) is under the direct supervision of regular officers of the United States Air Force. A description of the requirements and activities of this department is given in the section on air science (AFROTC) under List of Courses.

Required High School Preparation

A student enrolling in the College of Physical and Engineering Sciences will find it necessary, in order to complete the prescribed curricula without loss of time, to have successfully completed the following high school courses or their equivalents:

- 3 units of English.
- 3 units of mathematics which must include one unit of plane geometry and one and one-half units of algebra, with additional coursework in algebra; trigonometry, or solid geometry strongly recommended.
- 1 unit of physical science which should be either chemistry or physics, is also strongly recommended.

Because mathematics provides the foundation for all work in the physical and engineering sciences, each entering freshman who intends to enroll in this college will be given a placement test which will include a test of his preparation and ability in mathematics. If his high school training is found deficient, he will be required to take remedial work. On the other hand, if this test shows unusual proficiency he may be excused from taking some of the more elementary college mathematics.

Deficiencies in high school preparation may be made up by enrolling in special courses which are offered for this purpose. If a student feels he has sufficient understanding of required subject matter to carry his regular college courses satisfactorily, he may elect to take a special examination which, if passed successfully, will excuse him from these remedial requirements. He should recognize that the time required to complete his college program will probably be extended by the length of time necessary to make up these deficiencies.

A student who will not have completed all recommended courses by the time he graduates from high school may complete them through Home Study courses or other courses offered by the Brigham Young University Extension Services. A high school senior who has the time and ability to carry extra courses may take extension courses which will receive college credit and count toward his baccalaureate degree. Information on any of these courses will be sent upon request.

Physical Sciences

The Departments of Chemistry, Geology, Mathematics, and Physics each offer four-year courses leading to the degree of Bachelor of Arts or Bachelor of Sci-

ence. Candidates for graduation in these departments must meet the general University requirements for such degrees and must also meet the special requirements outlined in each department.

The majors offered in these departments leading to a four-year degree are in chemistry, chemistry teaching, pre-dental chemistry, pre-medical chemistry, geology, mathematics, and physics. In addition to these, a major in mathematical statistics is offered in this college through cooperation of the Departments of Mathematics and Statistics.

Engineering Sciences

Students enrolled in engineering curricula over the nation are generally requiring more than four years to complete work for their baccalaureate degree. For this reason all engineering curricula at Brigham Young University have been established as five-year programs. This has made possible the inclusion of a year-long sequence of mathematics beyond calculus and differential equations. The entire engineering program can therefore be based upon a solid foundation of mathematics and science. In addition, it has been possible to retain a strong general educational program as recommended by the American Society for Engineering Education.

Five-year courses leading to the degree of Bachelor of Engineering Science are offered in the Departments of Chemical Engineering Science, Civil Engineering Science, Electrical Engineering Science, and Mechanical Engineering Science. A similar course in Geological Engineering Science is offered in the Department of Geology and Geological Engineering Science.

The first two years of the engineering program are identical for civil, electrical, and mechanical engineering. They differ only slightly for chemical engineering. Students who wish to enroll in engineering, but have not made a definite decision as to which area they prefer, can therefore take one or two years in one of the departments and then transfer to another without loss of time.

Prior to entrance in the professional program which commences with the third year, a student must (1) have received an average grade of "C" or better in calculus and physics, and (2) pass a qualifying examination given by his department. If he has not attained the required grades, or if he fails to pass the examination but still feels he has the qualifications for undertaking engineering work, he may petition his department for admission to third-year standing on a probationary basis. His work for the ensuing year will then be subject to continual review. If it proves unsatisfactory he will not be permitted to continue in the department. To graduate, all engineering students must have an average of "C" or better in all courses taken.

Accreditation

All curricula in this college are fully accredited by the Northwestern Association of Secondary and Higher Schools. This means that course work taken here will be accepted by other universities and colleges which are likewise accredited. In particular, it means that graduates will have a minimum of difficulty in being accepted in any of the recognized graduate schools of the nation.

The Engineering Council for Professional Development (ECPD) has fully accredited the curricula in civil, electrical, and mechanical engineering, which means that these are now fully acceptable to the professional societies.

Graduate Courses

Instruction leading to a Master of Science degree is offered in chemistry, civil engineering, electrical engineering, geology, mathematics, mechanical engineering, and physics. Instruction leading to the degree of Doctor of Philosophy is offered in chemistry, geology, and physics.

Each graduate student must fill all of the requirements for advanced degrees as outlined by the Graduate School. **The responsibility of knowing and fulfilling these requirements rests with the student.**

College of Physical Education

Milton F. Hartvigsen, Dean (213 SFH)

The following departments are in the College of Physical Education:

- Health and Safety Education
- Intercollegiate Athletics
- Physical Education—Men
- Physical Education—Women
- Recreation
- Youth Leadership

The following additional areas are given special attention:

- Dance
- Intramural sports
- Pre-physical therapy

This college, unique in American universities, has two significant contributions to make: service and development of leadership.

Outstanding in its services are those functions which contribute to student life. The physical education program provides vigorous participation in specific physical activities which are part of the cultural heritage of American youth. Individual team and winter sports, various types of rhythms and dancing, gymnastics and tumbling, aquatics, special body building activities, and other activities provide opportunity for development, expression, and normal participation.

Those students with specialized skills in athletics are encouraged by well-coordinated programs in intramurals and in intercollegiate athletics. Through affiliation with the Mountain States (Skyline) Conference, there are opportunities for competition in basketball, football, golf, wrestling, track, baseball, tennis, and gymnastics. Varsity squads frequently make tours across the country meeting teams of other universities.

While opportunities for leadership by educated men and women are always unlimited, the demand is particularly high for those whose professional areas lie within this college. Professional training is emphasized in these major fields: recreation, youth leadership, physical education, and health and safety education. Certification for teaching in Utah may be completed, and certification for teaching in other states may be arranged readily. Dance and pre-physical therapy are given attention as areas in which students may specialize.

Brigham Young University is the first university to offer a major in youth leadership. The program is two-fold: the training of men for professional scouting and the preparation of men and women to serve the church and community in youth leadership capacities.

Brigham Young University alumni have gone to all points of the globe and have actively guided communities and Church members to the ends of abundant and wholesome living. The Church of Jesus Christ of Latter-day Saints, through its beliefs and its teachings, has developed a real heritage in health practices and in family, Church, and community recreation. Brigham Young University, in harmony with the objectives of the Church, plans not only for participation by its members, but for active and exemplary leadership by them. It is a goal of this college to help achieve this.

Department of Recreation. This department has a number of basic functions in fulfilling its responsibility to the students, the University, the Church, and the profession. Among the responsibilities specifically recognized are (1) to prepare professional recreation leaders, (2) to qualify voluntary leaders for church and community service, (3) to provide and supervise recreational activities

for students and faculty, and (4) to provide consultation service for campus, community, and state groups. To meet these responsibilities this department has developed an expanded curriculum and secured many new facilities; others are being planned for the immediate future and a highly trained staff has been assembled to conduct the program.

The general purpose of the expanding intramural program is to afford all students the opportunity to take part in a well-organized program which includes a wide range of activities. An extensive program for both men and women is provided.

Departments of Physical Education. These departments, one for men and one for women, work together in providing (1) service courses, (2) professional education for prospective teachers of physical education and athletic coaching on the undergraduate and graduate levels, and (3) special curricula in dance and pre-physical therapy.

Physical education is planned to develop organic power, physical fitness, skill in activities, and enthusiasm for useful and desirable pursuits during leisure time throughout life. Its program is also planned to develop social habits and attitudes which will prepare students for leadership roles in college, Church, family, and community life. Many courses are offered on a coeducational basis.

Department of Youth Leadership. The objectives of the Department of Youth Leadership are two-fold: (1) to train college men and women in the basic knowledge and skills of the scouting program to the end that they can better serve their Church and the community in which they live, and (2) to provide training for prospective professional career men in youth leadership for the Boy Scouts of America and other allied organizations.

The need for trained youth leaders is greater now than at any time in the history of the world. The increase of population can only make this need greater. It is the sincere hope of the department that each member of the Brigham Young University student body will avail himself of this specialized training in order that he may be prepared to help either his Church as a volunteer or his nation as a professional scout.

Department of Health and Safety Education. Emphasis is placed on the educational aspects of health, including safety and driver education, as well as the health sciences. This department functions in the promotion of proper health attitudes and practices. It also cooperates with the home, University health center, physicians and dentists, public health departments, and other groups which have responsibilities in the promotion of health. The health curriculum deals primarily with health instruction; stress is placed on personal hygiene, sanitation, nutrition, and personal safety practices. Courses are offered for all students and for teachers working toward certification in public schools of the state.

Department of Intercollegiate Athletics. Brigham Young University is a member of the Mountain States (Skyline) Conference and the National Collegiate Athletic Association. The school competes in all sports sponsored by the conference.

The athletic program at Brigham Young University serves as a vital educational training ground and laboratory dedicated to teaching young men important individual traits which will better enable them to perpetuate the American tradition. The program is designed to develop such characteristics as capacity to lead and direct, respect for discipline and authority, social and moral understanding, ability to act effectively under stress, capacity for self-discipline in the interest of accomplishment, and determination to overcome obstacles. Individual and team play promotes cooperation, sportsmanship, health, strength, and bodily vigor in the participants.

College of Religious Instruction

David H. Yarn, Jr., Dean (216 S)

The following departments are in the College of Religious Instruction:

Bible and Modern Scripture
Biblical Languages
History and Philosophy of Religion
Religious Education
Theology and Church Administration

This college administers all religious instruction sponsored by the University.

It has always been the view of the Church of Jesus Christ of Latter-day Saints that in the training of its youth there should be a proper integration of moral and religious values with secular knowledge. From its inception, Brigham Young University, firm in the belief that no life is full and complete unless established upon a sound ethical and religious basis, has offered courses in religion.

For the General Education requirements in religion, see the Student Academic Services section of this catalog.

Graduate Studies in Religion

The College of Religious Instruction offers training leading to the Master of Arts, Master of Science, Master of Religious Education, and Doctor of Philosophy degrees. A student must have adequate preparation on the undergraduate level before beginning work leading to one of these degrees. The admissions committee of the graduate faculty of religion will determine if the student is properly prepared.

Each graduate student must fill all the general regulations and requirements for advanced degrees as outlined by the Graduate School. **The responsibility of knowing and fulfilling these regulations and requirements rests with the student.**

The College of Religious Instruction offers courses for graduate work in Bible and modern scripture, biblical languages, history and philosophy of religion, and religious education. A student working toward the master's degree may elect a major in any one of these fields. The Doctor of Philosophy degree, however, is offered at present only in Bible and modern scripture and in history and philosophy of religion. A candidate for a doctorate must elect either one or two minor fields, in consultation with his advisory committee.

A statement of detailed requirements and procedures of the graduate program in religion may be obtained upon request to the dean of the College of Religious Instruction.

Master's Degree

Before a student is admitted on a degree-seeking basis, the admissions committee of the graduate faculty of religion will carefully study and evaluate his preparation and fitness for a graduate program. After the student is officially accepted he will be assigned an advisory committee. Working under the direct supervision of this advisory committee the student must: (1) complete at least 15 semester hours of formal course work in his major field and at least 9 hours in his minor field; (2) write an acceptable thesis embodying the results of original research; and (3) successfully pass an oral examination in defense of his thesis and in demonstration of mastery of the subject matters of his major and minor fields.

Doctor of Philosophy Degree

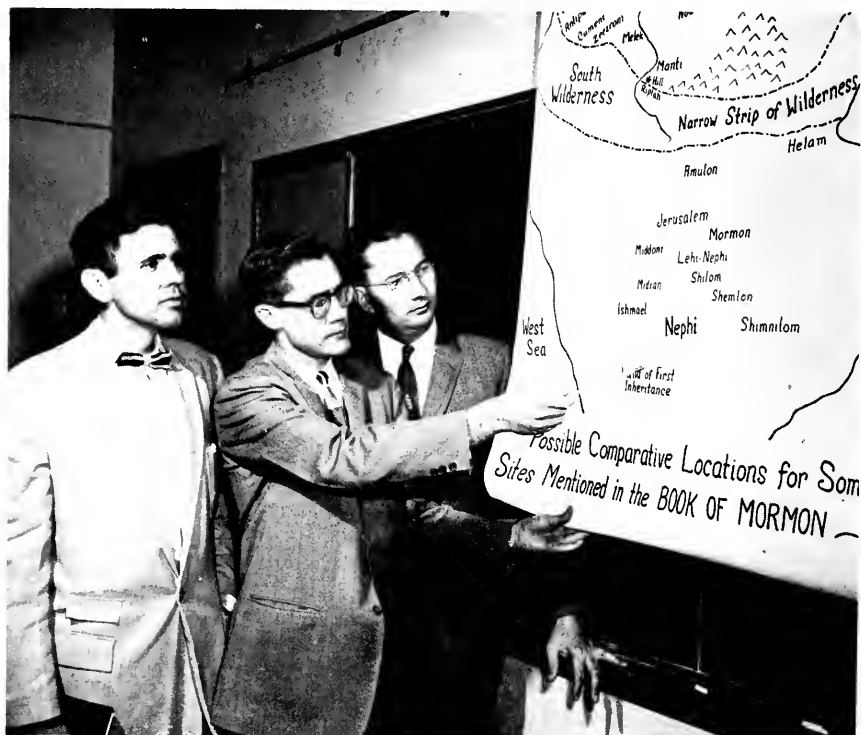
The student must achieve a thorough mastery of his major, minor, and related fields, a program which will require a minimum of 90 semester hours

credit. Part of this requirement may be fulfilled in the completion of the "core" courses listed below.

All doctoral candidates must have an adequate knowledge of at least two foreign languages which will assist them in graduate studies, one of which must be German or French. One foreign language is required before admission to the doctoral program. Upon completion of the "core" requirements with distinction ("B" grade or better), normally two years, a student must pass a series of written qualifying examinations and an oral examination on the subject matters represented in the "core" courses. The student will not be awarded the Ph.D. degree until at least two semesters following the successful completion of these examinations. Should the student fail the examinations, the question of whether or when he may repeat them will be determined by his advisory committee in consultation with the admissions committee. The qualifying examinations may not be attempted more than twice. In addition to the "core" requirements the student will be expected to complete an additional 30 hours of specialization in his major and minor fields.

When a student has successfully completed his language requirements, his written and oral qualifying examinations, and the presentation of his dissertation topic, he will be certified by the dean of the college as an official candidate for the doctor's degree. Having selected his topic in consultation with his advisory committee, he must write a satisfactory dissertation embodying the results of original research. Thereafter, the candidate must defend his dissertation before a formally appointed committee.

"Core" Courses. Bible 411, 501, 502, 503, 511, 512; History of Religion 441, 442, 451, 452, 555, 556, 645, 646, 657, 658; Scripture 527, 621, 624; Philosophy 480, 580, 581, 583, 584; Religious Education 670; Theology 530.



Graduate School

General Information

Purpose

The Graduate Division of Brigham Young University was established as an administrative unit in 1922, 47 years after the founding of Brigham Young Academy in 1875. The objective of graduate study was then stated in these terms: "The essential aim . . . is to develop the power to do independent work and to encourage the spirit of research. Each candidate is expected to possess a broad general knowledge of his major subject with less detail in the case of his minor subjects."

Educational institutions such as Brigham Young University reflect the aspirations and problems of the American people. They carry the ideals, dreams, and hopes of democracy from generation to generation. Their ranks must be filled with men and women trained in the skills, the arts, and the sciences and dedicated to a higher spiritual understanding through which all men can work for the common good.

Faculty

The faculty of the Graduate School consists of those who hold the rank of professor, associate professor, assistant professor with a doctoral degree, and others approved by the Graduate Council. It is the responsibility of the graduate faculty to formulate and recommend requirements for all graduate degrees and to recommend regulations and facilities to promote the scholarly activities and research interests of graduate students.

Graduate Council

The chief administrative body of the graduate faculty is the Graduate Council, which consists of (1) the academic vice-president of the University, the dean of the Graduate School, and the director of research, ex officio; (2) four members of the graduate faculty elected at large for terms of three years; and (3) one member of the graduate faculty elected from each of the colleges in which there are departments offering graduate work. The Graduate Council is empowered to act for the graduate faculty on all student petitions and on departmental requests for approval of faculty members for graduate instruction and supervision.

Administration of the Graduate Program

Subject to review by the President, the administration of the graduate programs is vested in the graduate dean and the Graduate Council, which in turn delegates the operation of the specific program in any given area to the department involved.

Scholarships, Assistantships and Fellowships

Scholarships and Fellowships. The University has established the following scholarships and fellowships for graduate students:

30 scholarships which range in value from remission of tuition and fees to \$1,800 plus tuition and fees.

30 fellowships which range in value from remission of tuition and fees to \$1,500 plus tuition and fees.

These scholarships and fellowships are awarded on the basis of high academic achievement and are available to students in all areas of graduate study. Recipients must possess a baccalaureate degree at the beginning of the period for which the scholarship or fellowship is granted and be a candidate for a higher

degree. Applications for the academic year beginning in September should be filed by the preceding March 1. Application forms may be obtained from the dean of the Graduate School.

Teaching and Laboratory Assistantships. Many departments employ graduate students as teaching or laboratory assistants. Assistantships are awarded on the basis of scholastic accomplishment and competence for service. Remuneration is based on the time devoted to teaching duties. Application forms and detailed information may be obtained by writing to the chairman of the department in which the applicant wishes to become an assistant.

Research Assistantships and Fellowships. A substantial number of research assistantships and fellowships are available at Brigham Young University. Recipients work part time under the supervision of a faculty member on research projects which are supported by University, government, or private sources. The awards vary from about \$1,200 to about \$2,800 per school year. Students interested in appointments to research assistantships or fellowships should direct inquiries to the chairman of the major department.

Summer Sessions

Graduate students who do a part of their work at the University during the summer will find a wide range of graduate courses suited to their purposes. The summer session is divided into two terms so that students may attend only part of the summer if they desire. Graduate students who spend full time on academic work may register for a maximum of six semester hours per term depending on their previous academic record.

Library Facilities

In relation to present size, Brigham Young University has one of the ten fastest growing university libraries in the United States. With the growth in the number of volumes an effort is being made to acquire those library tools necessary to a graduate research program. A well-trained staff is available to assist scholars in the use of the book collection, and to interpret the specialized bibliographies, catalogs, guides, and indexes.

The University Library contains the general book collection including over 300,000 bound volumes, several thousand pamphlets, and an extensive collection of titles on microfilm and microcards. Over 3,000 periodicals are received regularly.

The facilities of the Genealogical and Historical Library in Salt Lake City, containing over 500,000 titles, are also available by special arrangement, as are the collections of Utah and Mormon materials in the L.D.S. Church Library in the same city.

Admission to the Graduate School

At Brigham Young University, all students (except those seeking a second bachelor's degree) who have the bachelor's degree from an accredited university register with the Graduate School.

Requirements for Admission

Degree-Seeking Students. A student who intends to work for an advanced degree must have achieved at least a "B" (3.0) average in the last two years of college work. The department may require additional evidence concerning the applicant's ability to pursue graduate work in his major field—such as the capacity for research or creativity, facility in written and oral expression, and appropriate professional objectives—and may require qualifying examinations or other criteria as a basis for its decision. Remedial work or other requirements may then be prescribed.

A student whose native language is not English is cautioned that adequate command of the English language is indispensable to successful graduate work.

He must include with his application for admission a statement from a responsible official that the applicant knows how to read, write, speak, and understand the English language sufficiently well to be able to pursue a satisfactory program of study in the Graduate School. He should anticipate admission on a provisional basis until he proves his ability to do graduate work.

Non-Degree-Seeking Students. A student with a bachelor's degree may register in the Graduate School on a non-degree-seeking basis for a wide variety of courses for which he is prepared.

Procedure for Admission

Degree-Seeking Students. To be admitted to the Graduate School on a degree-seeking basis, a student should file with the Admissions Office an application which includes the following: (1) a form for admission or readmission to the University (unless the student was in attendance the preceding semester), (2) a form for admission to the Graduate School on a degree-seeking basis, and (3) two transcripts of all previous college work if that work was not done at Brigham Young University). In addition to the items submitted to the Admissions Office, three letters of recommendation should be submitted to the dean of the Graduate School. Two of these letters should relate to the student's academic ability and the third to his character.

Application forms should be submitted at least two months before the beginning of the semester in which the student plans to begin his work. A student who does not have his application filed by this date cannot be assured that it will be acted upon by the time classes begin. The forms are evaluated by the department in which the student intends to major and by the dean of the Graduate School. Permission to register in the Graduate School is granted by notice from the University Admissions Office and does not by itself constitute authorization to register on a graduate degree-seeking basis. The student is classified as a degree-seeking graduate student only on receipt of a notice signed by the chairman of the department and the dean of the Graduate School. This notice permits the student to take any course for which he is qualified, with the understanding that all courses applying directly toward a graduate degree shall, at the time of registration, be approved by the student's advisory committee.

Provisional Students. The student whose academic record is below a "B" (3.0) average for the last two years of college work or who matriculated from a university which is not accredited, may be admitted as a provisional student upon the recommendation of his department chairman. Reclassification from this category to full-degree-seeking status is given upon the completion of at least 12 semester hours of "B" credit in upper division or graduate work, the recommendation of the department chairman, and the approval of the graduate dean. Up to 12 semester hours earned while on provisional status may be applied to the degree if recommended by the student's advisory committee.

Non-Degree-Seeking Students. To be admitted to the Graduate School on a non-degree-seeking basis, a student should file an application for admission or readmission with the University Admissions Office, furnishing an official transcript of all preceding work at institutions attended (if that work was not done at Brigham Young University) and showing evidence of having received the bachelor's degree. Admission is granted by means of a registration permit issued by the University Admissions Office. If a student was in attendance at Brigham Young University the previous semester, registration materials are automatically readied for him.

Degrees Conferred

Doctor of Philosophy Degree. The Doctor of Philosophy degree is awarded after the completion of the requirements listed below.

Doctor of Education Degree. The Doctor of Education degree is awarded after the completion of the requirements listed below with the additional special requirements listed under "Requirements for Doctor of Education Degree."

Master of Arts Degree. The Master of Arts degree is awarded upon completion of the requirements listed below, plus completion of the foreign language requirement for a Bachelor of Arts degree (18 hours of a foreign language).

Master of Science Degree. The Master of Science degree is awarded upon completion of the requirements listed below.

Master of Business Administration Degree. The Master of Business Administration degree is awarded upon completion of the two-year professional program described in the graduate catalog.

Master of Education Degree. The Master of Education degree is awarded upon completion of the requirements for the Master of Science degree, with the following exceptions: (1) a satisfactory field project (course 698) may be substituted for the thesis, and (2) a total of 30 hours credit shall be presented in addition to the field project (2 to 4 hours).

The field project is a study of a practical problem in the field of the candidate's interest as a teacher. The problem is selected and developed by the student, subject to the approval of his advisory committee. The finished report on the project should conform to the requirements for a thesis in matters of style, format, and manner of filing. It is recommended that a candidate complete not less than one year as a teacher before beginning the field project.

Master of Religious Education Degree. The Master of Religious Education degree is awarded upon completion of the requirements listed below and the special requirements listed under the Department of Religious Education.

GRADUATE CERTIFICATION

Two-Year Certificate in Educational Administration. The two-year certificate in educational administration is offered for the preparation of school principals and supervisors, and is awarded after completion of requirements listed in the Graduate School Catalog.

GENERAL REQUIREMENTS FOR ALL ADVANCED DEGREES

Advisory Committee. The student's program and his thesis or dissertation are developed under the direction and supervision of an advisory committee. The advisory committee for a student working toward the master's degree consists of two members, and for a student working toward the doctorate it consists of at least three members. These members are nominated by the student from the graduate faculty of his major and minor fields in consultation with the chairman of his major department and with the approval of the dean of the Graduate School. The chairman of the advisory committee is a representative of the major field. This committee advises the student in his proposed program, approves his registration, and directs his research and the work on his thesis or dissertation. All work which is to apply toward an advanced degree must be approved by the advisory committee.

As soon as his program is determined (in consultation with the advisory committee) the student should supply each member of the committee with an outline of the program, and he should file a copy which is signed by the committee members with the Graduate School office.

The membership of the advisory committee may be changed with the approval of all members of the newly constituted committee, the chairman of the major department, and the dean of the Graduate School. After such a change the student reviews his entire program with the new committee.

English 99. Students whose ability to write clearly and correctly is deemed unsatisfactory by the department involved are required to enroll in a noncredit course, English 99, Problems in Thesis Writing. Students who need this course should take it at the earliest possible time.

Departmental Requirements. Special departmental requirements for advanced

degrees are listed in the section of the Graduate School bulletin which deals with the major departments.

Student Load. In recognition of the intense character of graduate work and the high grade-point average required, a normal full load for a graduate student is from 12 to 16 semester hours or their equivalent in research. Teaching assistants and others employed approximately one-half time should limit their loads to not more than ten semester hours, and full-time employees to not more than 5 semester hours.

Graduate Credit for Seniors. If, during the last semester of the senior year, a candidate for a baccalaureate degree finds it possible to complete all requirements for such a degree with a registration of fewer than twelve hours of undergraduate credit, he may register for graduate credit to the extent that the total registration shall not exceed 16 hours during the semester. A form provided by the Graduate School office stating that all undergraduate requirements are being met during the current semester must be signed by the appropriate undergraduate dean and presented to the dean of the Graduate School prior to such registration. Such a registration does not constitute permission to seek a higher degree.

Application for Graduation. A student, when contemplating graduating, should file an application for graduation with the graduate dean and pay the graduation fee. This should be done by January 15 for June graduates and by March 15 for August graduates. This should be done before scheduling the final examination.

Graduation. All graduating students must attend graduation exercises unless they have been excused or have made satisfactory explanations of absence.

GENERAL REQUIREMENTS FOR THE MASTER'S DEGREE

Admission on a degree-seeking basis must be completed before the student registers for the last twenty hours of credit intended to apply on the degree.

Amount and Distribution of Credit. The master's degree requires a minimum of 30 semester hours of credit and may be obtained by completing one of the following options. The second option is available only after a department has submitted its program to and been approved by the Graduate Council.

Option I. At least 15 semester hours exclusive of thesis must be in the major field and at least 9 semester hours in a minor field approved by the major department.

Option II. Thirty hours must be in the major field or in direct support of the major field. Courses outside of the major field and considered as in direct support of the major field must be specified and listed by the department in advance, and such courses should not constitute more than 12 of the 30 credit hours.

Applicable to Options I and II above is the provision that at least 21 credit hours must consist of courses for which there is a systematic body of subject matter and is to be identified with a given course number such as ordinarily constitutes a formal course or seminar. Individual reading, thesis, research, and special problems may not be included in these latter totals.

Graduate work may be transferred from other institutions upon the approval of the student's advisory committee and the Graduate Council. Forms for petitioning for such transfers are available in the Graduate School office. Credit transferred must represent work which is a fair and reasonable equivalent of corresponding work in this University. All transferred credit must be of grade "B" or better.

A limited amount of upper division undergraduate work may be applied toward the degree only if started and initialed on the program outline by the student's adviser at the beginning of the student's graduate work. At least 20 hours of graduate work must be in the 500 series or above and taken on the Brigham Young University campus in Provo.

At least 20 hours must be taken after the advisory committee has been formed, and this must be approved by the advisory committee at registration. All courses must be approved by the advisory committee in order to apply on the degree.

No correspondence credit is applicable toward a master's degree.

Scholastic Standards. The student who fails to maintain at least a 2.7 grade-point average each semester will be placed on probation and must earn a "B" (3.0) average in graduate level work the next semester or he loses his classification as a degree-seeking student. The average grade of all graduate work attempted must be at least "B." At least three-fourths of all work applying on the degree must be of grade "B" or better; none of the remainder may be of a grade lower than "C."

Master's Thesis. At Brigham Young University, a thesis is required for the Master of Arts or Master of Science degree unless a piece of creative work is substituted in the major field. Fields in which the substitution may apply are music theory, theatre and dramatic art, painting and sculpture, design, and American and English literature. A field project is substituted for the thesis in the Master of Education program.

The prospective candidate for the master's degree enrolls for a thesis (course 699) in his major department. Before beginning his research or creative work, the student must obtain approval of the thesis problem from his advisory committee, and must file a title card and a prospectus, both signed by the members of the advisory committee, with the graduate dean. He is required to complete at least one semester of study after this is done. Up to four hours of credit may be recorded when the thesis is completed and accepted.

Detailed directions for the form of the thesis should be obtained from the student's major department.

Final Oral Examination. The passing of a final oral examination not less than fifteen days prior to graduation is required. It is the duty of the student to schedule the final examination after obtaining from the chairman of the major department the names of the examining committee. Forms are available for this purpose.

The examination committee for the master's degree will normally consist of at least four members. There must be at least two examiners from the student's major field and one examiner from the student's minor or related field. At least two of the examiners must not be members of the student's thesis advisory committee. The committee may consist of a minimum of three examiners if constituted as provided herein. In any case more than one negative vote of the examination committee will prevent the student from passing the examination. Other members of the graduate faculty may attend the examination and enter the discussion, but they may not vote.

The final oral examination consists of a defense of his thesis by the student and a searching examination into the student's preparation and competence in his major and minor fields.

Time Limit. Graduate credits are applicable toward the master's degree only within a six-year period from the time they are received. Students are advised to complete their programs without notable interruption.

GENERAL REQUIREMENTS FOR THE DOCTOR'S DEGREE

The doctor's degree is awarded for distinguished attainment in a recognized field of learning, not merely for the completion of courses of study. The University offers the Doctor of Philosophy degree in the fields of Bible and modern scripture, chemistry, clinical psychology, general psychology, geology, history, history and philosophy of religion, human development and family relationships, music, physics, and sociology. The Doctor of Education degree is offered in educational administration.

Academic Requirements. Admission on a degree-seeking basis must be completed prior to the student's registration for the last three semesters of full-time study intended to apply on the degree.

The student is required to complete the equivalent of at least three years of full-time study. Ordinarily two years of full-time course work or research is to be taken on the Brigham Young University campus at Provo. In any event, at least two consecutive semesters of work with a minimum of 24 semester hours must be taken on the Provo campus. Full-time study is defined as twelve to sixteen hours in course work or the equivalent in research per semester. The advisory committee has authority to decide what work will be accepted to meet these requirements, and may accept or require up to two years of full-time study elsewhere.

The student must select a major field of study and minor or supporting fields approved by the department chairman and the dean of the Graduate School. Specific requirements in these fields are described by the departments.

Comprehensive Examination. The student must pass a comprehensive examination on his doctoral fields under the direction of his advisory committee. This examination will normally be given at the end of the second year of graduate study.

Language Requirement. Before completing his comprehensive examinations, the student must present satisfactory evidence of proficiency in two foreign languages, one of which must be French or German. The selection of both required languages will be made in consultation with the student's advisory committee. In exceptional cases, the student may petition the Graduate Council to substitute another language for French or German.

The language examination is administered by the Language Department in agreement with the department in which the student is majoring. If the student is not prepared to pass examinations in both languages at entrance, on his application for admission he must satisfy the dean that he is taking the necessary steps to do so promptly.

Admission to Candidacy. Satisfactory completion of the comprehensive examinations and the language requirement is necessary for admission to candidacy for the doctor's degree. The student has the responsibility of filing with the dean of the Graduate School a statement from his advisory committee, signed by the chairman of his major department, that all conditions for admission to candidacy have been met and that his dissertation subject has been approved.

Notice by the dean of the Graduate School then admits the student to candidacy for the degree. This will normally be done after the completion of two years of graduate work. At least two semesters of full-time study must be completed after admission to candidacy and before graduation.

Dissertation. The candidate is required to present an acceptable dissertation based upon his own research. Four typewritten copies must be filed in the office of the Graduate School at least fifteen days prior to the final examination. At the same time, six copies of an approved abstract of not more than 600 words must be submitted. The student is also required either to furnish the University with fifteen reprints of his dissertation or to arrange for its microfilming.

Final Examination. Not later than fifteen days before graduation, the student must pass a final examination given by a committee of not fewer than five members. The committee consists of the advisory committee plus such other members as the dean of the Graduate School shall designate.

Time Limit. All requirements for the doctor's degree must be completed within nine years of the date on which the student applies for admission to degree-seeking status for that degree. In order for credit which exceeds this time limit to apply on the degree, such credit must be validated by special examination.

REQUIREMENTS FOR DOCTOR OF EDUCATION DEGREE

Admission Requirements. For admission to the program, the applicant must possess certification as a teacher, must have completed two years of practical experience in education, and must possess demonstrable acquaintance with the field of education. The student will be tested for familiarity with certain background fields of significance to education.

Academic Requirements. The student is required to complete the equivalent of at least three years of full-time study of which one must consist of two consecutive semesters on the campus of the University. (He must take one two-hour seminar during each of these semesters.) Normally a foreign language is not required, but proficiency in statistics must be demonstrated to the satisfaction of the advisory committee.

Field Project and Report. A field project for the improvement of a program of administration or instruction is carried out under the direction of the student's advisory committee after he has been admitted to candidacy. The report of the field study must meet the same standards of format as the Doctor of Philosophy dissertation, and must be submitted under the same schedule and requirements regarding publication.



List of Courses

General

Semester System. Commencing with the autumn term, 1960, courses of study at Brigham Young University were offered on a semester basis rather than the previously offered quarter basis. This Catalog of Courses contains information and course listings based upon the semester system.

It was felt that the semester system would benefit both present and prospective students by reducing administrative procedures and by increasing opportunity for effective learning.

Course Numbering System.

Course Number	Type of Course
1 to 99	Preparatory and remedial (non-credit)
100 to 299	Lower division
300 to 499	Upper division
500 to 599	Advanced undergraduate or graduate
600 to 799	Graduate

Credit Hour Designation. The three-number code for credit hours has the following significance:

First number:	Semester hours of credit
Second number:	Class hours of lecture, recitation, or seminar meeting per week or Minimum hours of individual study required per week
Third number:	Laboratory hours required per week or Hours of field study or individual research per week

Cross Referencing of Courses. Each course is listed completely only once in the catalog. If the course may count in another department, it appears in a special grouping at the end of the course listing for that department.

Inter-departmental Courses. In family living, humanities, and physical science inter-departmental courses are taught. In the course listing which follows, these courses appear under the appropriate headings of family living, humanities, and physical science rather than in a specific department.

Graduate Courses. For regulations governing study beyond the bachelor's degree, see the Graduate School section of this catalog and the Graduate School Catalog. Advanced undergraduate or graduate courses (500 series) may be used for graduate credit with certain limitations.

Reservation of Right to Change Courses. At the time of printing of this catalog, the University intends to give the courses listed herein, but reserves the right to eliminate or discontinue any of them or to add new courses.

Courses

Accounting
 Agricultural Economics
 Agronomy
 Air Science
 Animal Husbandry
 Archaeology
 Art
 Bacteriology
 Bible and Modern Scripture
 Biblical Languages
 Botany
 Business Education and Office Management
 Business Management
 Chemical Engineering Science
 Chemistry
 Civil Engineering Science
 Clothing and Textiles
 Dramatic Arts and Speech
 Economics
 Educational Administration
 Educational Philosophy and Programs
 Educational Research and Services
 Electrical Engineering Science
 English
 Food and Nutrition
 Forum Assemblies
 Geography
 Geology and Geological Engineering Science
 Health and Safety Education
 History
 History and Philosophy of Religion
 Homemaking Education
 Horticulture and Horticultural Specialties
 Housing and Home Management
 Human Development and Family Relationships
 Humanities
 Industrial Education
 Instruction
 Journalism
 Languages
 Library Science
 Mathematics
 Mechanical Engineering Science
 Music
 Nursing
 Physical Education
 Physical Science
 Physics
 Political Science
 Psychology
 Recreation
 Religious Education
 Sociology and Anthropology
 Statistics
 Technical and Semi-Professional Institute
 Theology and Church Administration
 Youth Leadership
 Zoology and Entomology

Accounting

Professors: R. J. Smith (chairman, 350 JK), Andersen.

Associate Professor: Johnson*.

Assistant Professors: J. M. Smith*, White.

Instructors: Skousen*, Sonderegger, Western, Woodfield.

The Accounting Department trains students in the use of objective measuring methods in the financial dealings of business, and attempts to develop men of high professional status in the use, analysis, interpretation, and projection of accounting data. The accountant must be aware of the dynamic changes in general business methods and goals and must develop practical methods of measuring and reporting these changes accurately and of integrating them into acceptable accounting terminology and procedures.

The training given leads to three principal areas of service: (1) the certified public accountant who serves industry and the public as an independent professional man skilled in accounting and auditing techniques; (2) skilled personnel in electronic data processing who must develop superior methods in the use of new, reliable, and communicable measures of performance which will aid in guiding the business and the economy in periods of rapid change; and (3) the controller or industrial accountant who can serve effectively in the management team, being conversant with and sensitive to the progressive innovations taking place in business. In this area the Accounting Department provides an opportunity for students to acquire the business management perspective which will qualify them for administrative positions. In addition to these three principal areas, the accountant may engage in government service or enter the teaching profession.

Majors in the Accounting Department are required to take the courses listed below:

Business Management 340 or 585, 347 or 579, 348 or 552	9 hours
Economics 111, 112, 345	8 hours
Statistics 221 and one other course	4 hours

Accounting 131 (or equivalent), 132, 201 or 211, 212, 255, 301, 302, 342, and a minimum of six additional hours selected from the course offerings originating in the Accounting Department with the approval of the student's adviser. (Accounting 593, 596, and 699 may not be selected for this purpose.) No more than 5 hours of "D" grade in the required courses in accounting will be accepted toward graduation 35 hours

Minors in the Accounting Department should take the following courses:

Accounting 201 or 211, 212, and any additional four or more hours from the course offerings of the Accounting Department except 131, 132, 593, 596, and 699, which may not be selected for this purpose.

Suggested Program for Accounting Majors

A suggested program which can be followed by accounting majors is given below. Each student will need to make modifications in this program to meet his individual problems. Courses marked with an asterisk (*) are required for graduation by the University, college, or department.

Freshman Year:	Maximum Hours	Minimum Hours
*Religion	4	4
*Physical education and Health 130	3	3

*English (111, 112; or 115, 116)	6	4
*Physical science group	3	3
*Biological science group	3	3
*American Heritage (History 170)	3	3
*Social science group (Psychology 111 suggested)	3	3
*Humanities and fine arts group	3	3
*Accounting 131 or Mathematics 101 and Accounting 132 (Business Mathematics)	5	4
Forum and devotional assemblies	2	2
Electives—may be used to fill groups	1	4
	<hr/> 36	<hr/> 36

Sophomore Year:

*Religion	4	4
*Physical education	1	1
*Humanities and fine arts group	3	3
*Physical science group	3	3
*Biological science group	3	3
*Accounting 201 or 211 (Elementary)	5	5
*Accounting 212 (Procedures and Cost)	5	5
B.E.O.M. 206 (Calculating and Posting Machines)	2	2
*Economics 111, 112 (Principles) (Social science group)	5	5
*Statistics 221 (Principles)	2	2
Forum and devotional assemblies	2	2
Electives	1	1
	<hr/> 36	<hr/> 36

Junior Year:

*Religion	4	4
*Humanities and fine arts group	2	2
*Accounting 255 (Basic Concepts of Data Processing)	2	2
*Accounting 301, 302 (Intermediate)	10	10
*Accounting 342 (Introduction to Commercial Law)	3	3
*Business Management 340 or 585 (Industrial Organization and Management)	3	3
*Business Management 347 or 579 (Marketing)	3	3
*Business Management 348 or 552 (Financial Administration)	3	3
*Economics 345 (Intermediate Theory)	3	3
*Statistics (2nd course, unless elected for senior year)	2	
Forum and devotional assemblies	2	2
Elective		2
	<hr/> 37	<hr/> 37

The above courses include most of the University General Education requirements and the college core requirements, as well as the basic courses in accounting. At this point the student should determine the extent to which he desires additional accounting training. A number of alternatives are available. Four plans are given below: one for those who desire to complete their training in four years, and three alternative plans for those intending to complete a five-year professional program.

Four-year general accounting course, senior year:

	Hours
*Religion	4
Accounting 332 (Advanced Business Mathematics)	2
Accounting 420 (Taxes)	3
Accounting 442 (Advanced Business Law)	3

Accounting 565 (Auditing Theory)	3
B.E.O.M. 320 (Report and Business Writing)	3
Business Management 480 or 481 (Executive Lectures)	1
*Statistics (2nd course if not taken junior year)	0-2
Forum and devotional assemblies	2
Electives	13-15
	<hr/>
	36

Five-year programs:**No. 1. Controllership and Industrial Accounting****Senior year:**

*Religion	4
Accounting 332 (Advanced Business Mathematics)	2
Accounting 420 (Taxes)	3
Accounting 565 (Auditing Theory)	3
B.E.O.M. 320 (Report and Business Writing)	3
Business Management 420 (Human Relations)	3
Business Management 480 or 481 (Executive Lectures)	1
*Statistics (2nd course if not taken in junior year, with 231 or 532 recommended)	0-2
Forum and devotional assemblies	2
Electives—suggested courses are: Accounting 442; Business Management 450, 451, 521, 574; Economics 453, 461 ..	11-13
	<hr/>
	34

Fifth year:

Accounting 512 (Advanced Cost)	2
Accounting 515 (Controllership)	3
Accounting 521 (Advanced Taxes)	2
Accounting 555 (Advanced Data Processing)	3
Accounting 556 (Computer Programming)	3
Business Management 488, 489, 589 (Business Management and Business Policy)	6
Business Management 577 (Modern Corporate Problems) ..	2
Economics 576 (Government and Business)	3
Electives (See senior year)	6
	<hr/>
	30

No. 2. Electronic Data Processing**Senior year:**

*Religion	4
Accounting 332 (Advanced Business Mathematics)	2
Accounting 420 (Taxes)	3
B.E.O.M. 320 (Report and Business Writing)	3
*Statistics (2nd course if not taken junior year, with 333 recommended)	2
Business Management 480 or 481	1
Forum and devotional assemblies	2
Electives—suggested courses are: Accounting 442; Business Management 420	17
	<hr/>
	34

Fifth year:

Accounting 555 (Advanced Data Processing)	3
Accounting 556 (Computer Programming)	3
Accounting 557 (Advanced Computer Programming)	2

Accounting 565 (Auditing Theory)	3
Statistics 431, 432, 434, 532	9
Electives	10
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	30

No. 3. Professional Public Accounting

Senior year:

*Religion	4
Accounting 332 (Advanced Business Mathematics)	2
Accounting 420 (Taxes)	3
Accounting 442 (Advanced Business Law)	3
Accounting 512 (Advanced Cost)	2
Accounting 521 (Advanced Taxes)	2
Accounting 565, 566 (Auditing)	5
B.E.O.M. 320 (Report and Business Writing)	3
Business Management 480 or 481 (Executive Lectures)	1
*Statistics (2nd course if not taken in junior year, with 534 (Sampling) recommended)	2
Forum and devotional assemblies	2
Electives—suggested courses are: Accounting 596; Business Management 420; Economics 453	5
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	34

Fifth year:

Accounting 501, 502 (Advanced)	6
Accounting 555 (Advanced Data Processing)	3
Accounting 575 (Theory)	3
Accounting 586, 587 (C.P.A. Problems)	8
Electives	10
	<hr/>
	30

A student in a five-year program may desire to obtain a master's degree in accounting. In this event, a thesis would be required, for which four hours of accounting credit may be obtained. In addition to the thesis, a student would have to complete nine hours in a minor field or do other work in fields related to accounting as decided by the advisory committee for the student's graduate work. Some of the elective hours may be devoted to this purpose. Any student desiring to get a master's degree should study appropriate sections of the Graduate School Catalog.

Lower Division Courses

- 131 (Statistics 131). Elementary Mathematics of Business. (2:2:0) F.S.Su. Staff**
 Application of mathematics to business. Includes fundamental operations; factoring; ratios, proportions, and percentages; simple equations; exponents, roots and radicals; quadratic equations; functions and graphs.
- 132 (Statistics 231). Mathematics of Business. (2:2:0) F.S.Su. Prerequisite: Accounting 131 or Mathematics 101. Staff**
 Continuation of Accounting 131.
- 201 (101, 102). Elementary Accounting. (5:5:0) F.S.Su. Home Study also. Staff**
 An introductory course for students who have had neither training nor experience in accounting (or who have not had Mathematics 101 or its equivalent).
- 202 (102). Bookkeeping Procedures. (2:2:0) F.S.Su. Staff**
 Continuation of Accounting 201 for B.E.O.M. majors and others interested. (Not to be taken by majors in accounting.)

- 211 (201, 202). Elementary Accounting.** (5:5:0) F.S.Su. Prerequisite: high school bookkeeping or Mathematics 101 or its equivalent. Staff
An introductory course designed for the student whose major field demands a more rigorous course than Accounting 201.
- 212 (202, 285). Accounting Applications—Procedures and Cost.** (5:5:0) F.S.Su. Prerequisite: Accounting 201 or 211. Staff
A continuation of elementary accounting, with emphasis on accounting procedures and cost accounting.
- 255 (316). Basic Concepts of Data Processing.** (2:2:1) F.S.Su. Prerequisite: Accounting 201 or 211. Staff
Introduction to data processing systems, with emphasis on mechanical and punched card applications.

This course also counts in accounting:

Business Education and Office Management 206. Calculating Machines. (2:5:0)

Upper Division Courses

- 301, 302 (350, 351, 352). Intermediate Accounting.** (5:5:0 ea.) F.S.Su. Home Study also. Prerequisites: Accounting 201 or 211, and 212. Staff
Intermediate course in accounting for general business students and for majors who need a broad foundation for specialized studies which they will take later.
- 332 (Statistics 332). Advanced Mathematics of Business.** (3:3:0) F. Prerequisite: Accounting 132 or Mathematics 111. Staff
Selected topics from finite mathematics, vectors and matrices, trigonometry, analytical geometry, and elementary differential and integral calculus as applied to business.
- 342 (Bus. Mgt. 342). An Introduction to Commercial Law.** (3:3:0) F.S.Su. Home Study also. Staff
Survey of modern American business law as it applies to everyday business practices.
- 356 (317). Punched Card Accounting.** (2:2:1) S. Prerequisite: Accounting 255. Staff
Continuation of Accounting 255, stressing advanced accounting machine operations and systems design.
- 420 (450). Federal and State Taxes.** (3:3:0) F.S.Su. Home Study also. Prerequisites: Accounting 201 or 211 and preferably Accounting 301 or Business Management 303. Staff
A study of federal and state tax legislation and regulations with emphasis on individual income tax.
- 442 (459). Advanced Business Law.** (3:3:0) S. Prerequisite: Accounting 342. Staff
Business law for accountants and businessmen, with emphasis on laws covered in professional accounting examinations.

These courses also count in accounting:

Business Education and Office Management 320. Report and Business Writing. (3:3:0)

Business Management 488, 489. Problems in Business Management. (1:1:0) and (2:2:0)

Statistics 434. Sampling Techniques. (2:2:0)

Advanced Undergraduate or Graduate Courses

- 501 (440, 570). Advanced Accounting.** (3:3:0) F. and alternate summers. Prerequisite: Accounting 302. Staff

Includes joint ventures, consignments, installments, receiverships, estates and trusts, statements of affairs, and municipal and government accounts.

- 502 (570). **Advanced Accounting.** (3:3:0) S. and alternate summers. Prerequisite: Accounting 302. **Staff**
Home office and branch accounts and parent and subsidiary accounting.
- 512 (584). **Advanced Cost Accounting.** (2:2:0) F. Prerequisite: Accounting 212. **Staff**
Budgeting, standard costs, and cost analysis.
- 515 (572). **Controllership.** (3:3:0) S. Prerequisites: Accounting 302 and 512. **Staff**
Organization of the controller's office, control techniques, interpretation of financial data, and policy formulation.
- 521 (582). **Advanced Tax Problems.** (2:2:0) S. Prerequisite: Accounting 420. **Staff**
Advanced study of federal income tax, estate and gift taxes, and special problems in corporate taxation.
- 555 (555). **Advanced Data Processing.** (3:3:0) F. Prerequisite: Accounting 255. **Staff**
Principles governing design and installation of accounting systems and the selection of equipment for optimum performance in data processing cycles.
- 556 (556). **Electronic Computer Programming.** (3:3:1) F.S. Prerequisites: Accounting 132 and Statistics 221. Recommended prerequisite: Accounting 255. **Staff**
Basic computer logic, binary notation, operational coding, flow charting, iterative routines, subroutines, library programs, optimum coding, symbolic coding, and data processing application.
- 557 (557). **Advanced Computer Programming.** (2:1:2) S. Prerequisite: Accounting 556. **Staff**
Emphasis on the solution of practical problems in data processing. Individual work on the University's computer and comparison of various computers in current use.
- 565 (565, 571). **Auditing Theory and Professional Ethics.** (3:3:0) F.S.Su. Prerequisite: Accounting 302. **Staff**
Principles and methods of public accounting, professional responsibility and conduct, and verification techniques of accounts and financial statements.
- 566 (565). **Auditing Practice.** (2:2:0) F.S. Prerequisite: Accounting 565. **Staff**
Practice in auditing techniques, including report writing and filings with regulatory bodies.
- 575 (545). **Theory of Accounts and Statements.** (3:3:0) F. Prerequisite: Accounting 201 or 211. **Staff**
A brief study of the history and development of accounting and financial statements, their meaning and interpretation. Problems in current accounting theory are considered.
- 586, 587 (586, 587, 588). **C.P.A. Problems.** (4:3:1 ea.) F.S. Prerequisites: Accounting 302, 420, and the following which should be taken before or concurrently: Accounting 501, 502, 565. **Staff**
Preparation for professional examination.
- 593 (593). **Reading and Conference.** (1-3:1-3:0) F.S.Su. **Staff**
Subject to be arranged with instructor.

596 (596). Accounting Internship. (1-3:0:Arr.) F.S.Su: Recommended pre-requisite: Accounting 565. Staff
Internship must be arranged in advance with department and company.

This course also counts in accounting:

Business Management 589. Business Policy. (3:3:0)

Graduate Course

699 (699). Thesis for Master's Degree. (1-4:0:0) F.S.Su. Staff
This course number should also be used for non-credit continuing registration for students working on theses.



Agricultural Economics

Professor: Nelson.

Associate Professors: Corbridge (chairman, 310 HJG), Gardner.

The Department of Agricultural Economics emphasizes the business and economic aspects of agriculture. A wide range of electives permits a student in this department to choose course work from many different areas. The student should work with advisers from the department to adapt his study program to his particular interests and needs.

All freshman students in the College of Biological and Agricultural Sciences should take the courses listed in either of the programs outlined below:

Agricultural Science

	F	S
Religion	2	2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Health 130	2 or 2	2
English 111, 112	3	3
Mathematics 111	5	5
Botany 101*, Zoology 105, or Bacteriology 121	3	
Chemistry 111		4
Agricultural Economics 101	3 or 3	3
One of the following:	3-4	3-4
Agronomy 251		
Animal Husbandry 207		
Horticulture 101, 103		

Applied Agriculture

	F	S
Religion 131, 132	2	2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Health 130		2
English 111, 112	3	3
Mathematics 101 or Chemistry 101	4-5	4-5
Botany 101*, Zoology 105, or Bacteriology 121	3 or 3	
A student is required to take one course in agriculture (listed below) each semester. Two departments must be represented	3-4	3-4
Horticulture 101 or 103, Agronomy 251, Animal Husbandry 153 or 207, Agricultural Economics 101		

Twenty-four hours, including Agricultural Economics 101, 325, 410, Economics 111, and Statistics 221 are required for a major in agricultural economics.

A student is encouraged to concentrate on one of the following three options:
 (1) Basic agriculture, for those returning to the farm and primarily interested in production courses;
 (2) Pre-professional, for those planning graduate study;
 or (3) Agri-business, for those principally interested in the business aspects of farming or in seeking employment in related business areas.

*A student passing the biological test may, with the approval of his adviser, elect other courses.

Basic Agriculture Option. A student electing this option is advised to consider:

Agricultural Economics 101, 320, 325, 350, 360, 410, 425, 525, 580.
 Agronomy 141, 251 and/or 302, 305, 451, 455, 457.
 Animal Husbandry 153, 170, 207 and/or 161, 335, 507.
 Horticulture 101 and/or 103, 310.
 Industrial arts—classes as needed.
 Economics 111.
 Statistics 221.

Pre-professional Option. A student anticipating graduate training is advised to obtain a good background in mathematics, statistics, and economic theory.

The following classes should be included:

Agricultural Economics 101, 325, 410, 525.
 Economics 111, 345.
 Mathematics 101 or Accounting 131, and Accounting 132 and 332; or
 Mathematics 111 and Accounting 332; or Mathematics 111 and 112.
 Statistics 221, 431.

Additional classes are recommended from among the following:

Agricultural Economics 320, 350, 360, 425, 490, 580, 590.
 Agronomy 141 and/or 251.
 Animal Husbandry 207 and/or 215.
 Economics 586, 587.
 Horticulture 101 and/or 103, 310.
 Statistics 531.

Agri-Business Option. Business training is emphasized in this option. Recommended courses include:

Agricultural Economics 101, 325, 410, and one or more of 320, 350, 360, 425, 490, 525, 580, 590.
 Agronomy 141 and/or 251.
 Animal Husbandry 207 and/or 215.
 Horticulture 101 and/or 103, 310.
 Accounting 201 or 211.
 Business Management 315, 348, 420, 451, 457, 555, 557, 567, 569, 579, 589.
 Economics 111, 345.
 Geography 231
 Statistics 221, 231 and/or 431.
 Business Education and Office Management 220 and/or 320.

Lower Division Course

101 (101). Economics and Agriculture. (3:3:0) F.S. Home Study also. (G-SS)
 Corbridge, Nelson

Basic general education course in economics with special reference to the agricultural sector of the economy.

These courses also count in agricultural economics:

Economics 111, 112. Economic Principles and Problems. (3:3:0) (2:2:0)

Geography 231. Economic Geography. (3:3:0)

Mathematics 112. Analytical Geometry and Calculus. (5:5:0)

Mathematics 213. Calculus. (5:5:0)

Statistics 221. Principles of Statistics. (2:2:0)

Upper Division Courses

- 320 (320). Agricultural Business Organizations.** (2:2:0) F. Corbridge
A study of the organizational structure, problems, and relative importance of the types of business units with which agriculture is concerned.
- 325 (325). Farm Management.** (4:3:3) F.S. Prerequisites: Agricultural Economics 101. Corbridge
Principles of farm management, including basic economic principles of optimum resource combination, farm records useful for income tax and farm management purposes, and budgeting procedures in developing most profitable farm management plans.
- 350 (350). Land and Range Economics.** (3:3:0) F. Nelson
Analysis of economic problems relating to land use, evaluation, conservation, ownership, and land management.
- 360 (360). Law and the Farmer.** (2:2:0) S. Home Study also. Staff
A general study of the law of contracts, real and personal property, taxes, water, and estate planning, with specific applications to the problems of agriculture.
- 410 (410). Agricultural Marketing.** (4:4:0) F.S. Nelson
Economic principles and their application to the marketing of major agricultural products.
- 425 (425). Farm Appraisal and Finance.** (2:2:0) S. Corbridge
Training in farm appraisal for purposes of purchase, finance, and taxing. Also an evaluation of the principal sources of farm finance.
- 490 (490). Seminar.** (1:1:0) F. Staff

These courses also count in agricultural economics:

Accounting 332. Advanced Mathematics of Business. (3:5:0)

Economics 345. Intermediate Economic Analysis. (3:3:0)

Statistics 431. Statistical Methods. (3:3:0)

Advanced Undergraduate or Graduate Courses

- 525 (525). Production Economics.** (2:2:0) S. Prerequisite: Economics 111. Gardner
A study of principles concerning the optimum combination of productive resources within the farm firm and between firms.
- 580 (580). Agricultural Policy.** (2:2:0) S. Gardner
The theoretical and institutional setting of the agricultural industry, the objectives of farm policy, and the means of achieving these objectives. Includes a study of existing and proposed farm legislation.
- 590 (590). Seminar.** (1:1:0) S. Staff
- 595 (595). Individual Readings.** (1-3:Arr.:Arr.) F.S. Staff
- 597 (597). Individual Research.** (1-3:Arr.:Arr.) Staff

These courses also count in agricultural economics:

Economics 586. Theory of Price. (3:3:0)

Statistics 531. Experimental Design. (2:2:0)

Agronomy

Professors: Farnsworth (chairman, 173 B), Hallam, Laws, Walker.

Associate Professors: Allred, Ashton.

Special Instructor: Woodward.

The curriculum in the Department of Agronomy has as its objective the training of students in the fundamental principles of soils and field crop production and their interrelationships. Graduates are trained to fill positions in the following areas: (1) practical scientific farming, (2) government civil service, (3) commercial agricultural positions, (4) graduate study toward the M.S. or Ph.D. degree, and (5) agricultural education.

A minimum of twenty hours is required for a major in this department. A related field, with a minimum of fourteen credit hours, should also be selected as a minor by the student, with the approval of the department chairman.

All majors in agronomy are required to take one year of chemistry.

Course of Study for Freshman Year

A student may follow his interest by taking either agricultural science or applied agriculture. Course schedules for subsequent semesters should follow the student's interests and should be selected with the help of his adviser.

Freshman Year Agricultural Science			Freshman Year Applied Agriculture		
	F	S		F	S
Religion	2	2	Religion 131, 132	2	2
Physical education	½	½	Physical education	½	½
Health 130		2	Health 130		2
English 111, 112	3	3	English 111, 112	3	3
Math 111, 112	5	5	Math 101 or		
Botany 101*, Zoology			Chemistry 101	4-5	4-5
105, or Bacteriology			Botany 101*, Zoology 105		
121	3		or Bacteriology 121	3	or 3
Chemistry 111		4	A student is required to take one course in agriculture (listed below) each semester. Two departments must be represented: 3-4 or 3-4		
Agricultural					
Economics 101	3	or 3			
One of the following:	3-4	3-4			
Agronomy 251					
Animal Husbandry 207			Horticulture 101 or 103,		
Horticulture 101, 103			Agronomy 251, Animal		
			Husbandry 153 or 207,		
			Agricultural Economics 101		

*A student passing the biological test may, with the approval of his adviser, elect other courses.

In planning a program for returning to the farm, the student should take as many courses as possible in the following areas depending upon his needs, desires, and the requirements of his minor field:

Animal Husbandry 335, 365, 370, 427.

Botany 480.

Industrial Education 120, 125, 285, 308, 365.

Agricultural economics, agronomy, and horticulture as listed in this catalog.

Should a student desire to enter the field of government civil service as an agronomist, soil conservationist, soil scientist, range conservationist, range manager, or reclamationist, his general courses will be as listed above with electives from the following:

Agricultural economics, agronomy, animal husbandry, and horticulture as listed in this catalog.

Botany 110, 440, 450.

Chemistry 111, 112, 220, or 221.

Drawing 102.

Geology 102, 111, 112.

Mathematics 111, 112.

For training for commercial positions, a combination of the above courses is suggested. Additional agricultural economics and business courses should be taken after consulting with a department adviser.

The following are suggested courses of study for a student planning to work for an advanced degree.

Soils:

Agronomy 141, 251, 302, 303, 305, 308, 311, 314, 440, 491, 503.

Bacteriology 121.

Botany 101, 440, 450, 480.

Chemistry 111, 112, 113, 221, 351, 352, 461, 462.

Geology 102, 111.

German 101, 102.

Mathematics 111, 112, 213, 214.

Physics 211, 213.

Field Crops:

Agronomy 141, 251, 303, 305, 308, 451, 453, 455, 459, 491.

Botany 101, 110, 176, 440.

Bacteriology 121.

Chemistry 111, 112, 113, 221, 351, 352.

Geology 102, 111.

German 101, 102.

Mathematics 111, 112.

Statistics 221.

Lower Division Courses

- 141 (141). General Soils. (3:2:3) F.S. Hallam
An introductory course dealing with the physical, chemical, and micro-biological properties of soils.

- 251 (251, 260). Principles of Field Crop Production. (4:3:2) F.S. Allred
Crop production principles, soil-plant relationships, classification and distribution of farm crops, corn and small grain improvement, tillage and crop rotations.

Upper Division Courses

- 302 (302). Irrigation and Drainage. (3:2:3) S. Prerequisites: Agronomy 141, Mathematics 111. Laws
Proper use of irrigation water; irrigation water supply; water measurements; drainage in relation to the irrigation practices; drainage and alkali; drainage systems.

- 303 (307). Soil Genesis, Classification, and Survey.** (2:2:2) F. Prerequisites: Agronomy 141, Geology 101. Woodward
The influence of geologic forces and climatic environment on soil development; classification of soils based upon soil profile characteristics. Methods of soil survey are emphasized.
- 305 (305). Soil Fertility.** (3:2:3) F. Prerequisites: Agronomy 141, Chemistry 105 or 111. Hallam
The underlying principles of soil fertility, soil alkali, soil chemical analysis or soil testing, commercial fertilizers, farm manures, green manures, crop rotations.
- 308 (307). Soil and Water Conservation.** (2:2:0) S. Laws
History and status of soil erosion and soil fertility; effect of climatic factors, soil characteristics, vegetation, land management, and farm operations on soil and water conservation and on soil fertility and production maintenance.
- 311 (301). Soil Physics.** (3:2:3) F. Prerequisites: Agronomy 141, Chemistry 111, and Mathematics 101 or 111; recommended prerequisites: Physics 211, 212, 213; Chemistry 112, 113, and 220 or 221. Laws
Physical composition of soils—sand, silt, clay, and organic matter—and their effects upon the air, water, and temperature relationships in the soil.
- 314 (314, 315). Soil Microbiology.** (3:2:3) Prerequisite: Bacteriology 121. Hallam
Designed to acquaint the student with bacteria in relation to soil fertility; the activity and types of organisms in the rhizosphere; the biological processes in the soil.
- 440 (262). Forage Crops.** (3:2:2) F. Recommended prerequisite: Agronomy 251. Allred
Distribution, characteristics, identification, and establishment of all major forages adapted to grasslands of the U.S.
- 451 (451). Principles of Weed Control.** (3:3:2) S. Recommended prerequisites: Agronomy 141, 251. Allred
Cultural, chemical, and biological methods of weed control.
- 453 (261, 453). Advanced Field Crops and Seed Production.** (3:3:0) F. Prerequisites: Agronomy 141, 251. Allred
Problems involved in seed crop production; seed certification of small grains and forages; curing, storing, cleaning, and distribution of seed.
- 455 (455). Pasture Management.** (2:2:0) S. Prerequisites: Agronomy 141, 440. Allred
Analysis of the conditions of pastures in the intermountain region, need for improvement, factors involved in improvement; principles and practices of management required to provide maximum production for dairy, beef, sheep, hogs, and poultry.
- 457 (457). Ecology of Weeds and Crops.** (2:2:0) Su. Allred
Field study of important grasses, legumes, other agronomic crops, and weeds; adaptation to soil, moisture, light, and other environmental conditions; growth characteristics, utilization, and control.
- 459 (459). Plant Breeding.** (2:2:0) F. Prerequisites: Botany 101, Zoology 176. Ashton
Methods of hybridizing and selection in relation to plant improvements.
- 491 (496). Seminar.** (1:1:0) F.S.Su. Staff
Current agronomic literature, agricultural problems. Required of all senior students majoring in agronomy.
- 495 (New). Field Projects.** (2-3:0:4-6) F.S. Staff
Supervised field research or practical field problems. Required of all agronomy majors.

- 497 (497). Research. (1-2:1-2:0) F.S. Staff
Seniors specializing in agronomy elect research work from one to three hours.
- 498 (498). Agricultural Literature. (1-2:1-2:0) F.S.Su. Staff

Advanced Undergraduate or Graduate Courses

- 503 (503). Soil Chemistry. (2:2:0) S. Prerequisite: Chemistry 221 or consent of instructor. Hallam
A physico-chemical study of soil colloids.
- 506 (506). Soil and Plant Analysis. (3:1:6) S. Prerequisites: Agronomy 305, Chemistry 220 or 221. Hallam
Laboratory chemical analysis of soils and plant materials; use of radioactive materials in soil fertility research; use, care and measurement of radioactive materials.

Graduate Courses

- 605 (605). Chemistry of Soil-Plant Relationships. (3:3:0) F. Hallam
- 607 (601). Soil Physical Conditions. (3:2:3) S. Laws
- 614 (614, 615). Advanced Soil Microbiology. (3:2:3) S. Prerequisites: Agronomy 305, Bacteriology 121, Chemistry 221. Hallam
- 659 (659). Advanced Plant Breeding. (2:2:0) F. Allred
- 694 (694). Seminar. (1:1:0) F.S.Su. Staff
- 697 (697). Research. (Arr.) F.S.Su. Staff
- 698 (698). Agricultural Literature. (Arr.) F.S.Su. Staff
- 699 (699). Thesis for Master's Degree. (Arr.) F.S.Su. Staff



Air Science

Professor: Lt. Colonel Gibson (chairman, 140 HC).

Assistant Professors: Major Canfield, Major McCulloch, Major Nix, Captain Reasor.

Instructors: T/Sgt. Boman, T/Sgt. Nickell, S/Sgt. Hall, A/1C Burton.

General Information. AFROTC is voluntary at B.Y.U.; the cadet assumes no obligation until his junior year. The program trains him to function as a junior executive. The cadet specializes in the major field of his choice where he learns principles and techniques of leadership and management in preparation for service as a commissioned officer in the Air Force and as a leader in civic and community affairs. Eighty per cent of our Air Force officers are AFROTC graduates.

Eligibility. The beginning student must be a citizen of the United States and able to graduate from the program and the University by his 28th birthday. Physical and academic standards for the basic course (freshman and sophomore) are the same as those of the University. To qualify for the advanced program the cadet must pass a mental and physical examination during the sophomore year. On approval of the University president he executes an agreement to complete the last two years of AFROTC, attend four weeks summer training, and serve a tour of active duty with the Air Force upon graduation.

Enrollment. AFROTC should be completed at the time of or shortly before graduation. Therefore, a student may normally enroll in AFROTC only during his first or second semesters at B.Y.U. Exceptions are made for veterans, transfer students, and certain other students. Students with enrollment problems should consult the department chairman.

Minor in Air Science. An academic minor in air science has been approved. Students desiring air science as a minor must complete the AFROTC requirements and qualify for a commission in the United States Air Force. See the department chairman for detailed information.

Text Books, Uniforms, and Allowance. All items of the Air Force uniform and AFROTC text books are issued free of charge. During the last two years of AFROTC each cadet receives from the Air Force a monetary allowance of 90c per day or about \$525 for these two years.

Summer Training. The four-week summer training course is a supplement to the academic program. It develops in the cadet a better understanding of the Air Force mission and its operation. He receives additional practical experience in leadership in realistic situations on an Air Force base. The course emphasizes flying for those physically qualified. Each cadet receives medical care, food, and clothing while attending the course, and is paid \$75.00 in addition to travel pay to and from the base.

Flight Instruction Program. A flight instruction program is conducted at the Provo Airport by an accredited flying school. Senior cadets who qualify for pilot training are eligible to participate. Thirty-six and one-half hours of flying instruction are given, qualifying the student for a private pilot's license. Ground school instruction in navigation, weather, flight rules, and other subjects are given by USAF flying officers of the Department of Air Science.

Orientation Flights. A series of orientation flights in Air Force aircraft is scheduled each year. Each cadet will have the opportunity of visiting Air Force bases and aircraft assembly plants. These flights, as well as those flights in jet aircraft at the summer training course, are flown by experienced Air Force pilots.

Extracurricular Activities. Each AFROTC cadet will be able to extend his academic and laboratory associations into many extracurricular activities. Among

these are participation in the Arnold Air Society, drill teams, the AFROTC Chorus, the AFROTC Band, rifle teams, and the annual Military Ball for all cadets. Cadet associations and friendships formed during this period continue long after college.

L.D.S. Missions. Students called on L.D.S. missions will be released from the AFROTC program. Special arrangements have been made with the Air Force to accept each back into the program if he meets the conditions in force at the time of return.

Period of Non-Attendance. Students enrolling in AFROTC who are in a five-year program are allowed a year of non-attendance between the basic and advanced courses. During this period cadets remain deferred from the draft. They must, however, participate in leadership laboratory.

The Draft. Students who are enrolled in the AFROTC program may be deferred from the draft after they have completed one semester of air science.

Discipline. AFROTC cadets are civilians and are not subject to military law. Disciplinary training in the Cadet Corps is formulated and administered by the cadets themselves. Cadets are subject to the rules and regulations of the Department of Air Science and of the University. Violation of rules may mean discharge from the AFROTC program, but will not necessarily result in a student having to leave school.

Veterans. One of the reasons the University sought the AFROTC program was to offer students, including veterans, an opportunity to improve their status in the military reserve. A veteran seeking a commission through AFROTC may have that part of the basic program waived (maximum of both freshman and sophomore years) which corresponds with the academic credit on his record. He should have at least four semesters remaining prior to graduation, which must be before his 28th birthday. Active service after graduation is voluntary. Interested veterans should consult the professor of air science. Allowances are paid in addition to GI Bill benefits.

Course Fee Deposit. A \$14.00 deposit is required of the student at the beginning of each school year. The purpose of this fee is to protect the government and the University from loss of textbooks and uniforms. A course fee covering insurance and activity fund is withheld from this deposit. At the end of each school year approximately \$7.00 is returned to the student, providing there has been no loss of uniform or books.

The Program

The AFROTC program is normally a four-year program designed to fit into the regular academic schedule of the University. It consists of summer training, leadership laboratory, and academic classes.

Leadership laboratory is required of each student during his eight semesters of enrollment in the program. This is a regular part of the curriculum whether enrolled directly in academic courses of the department or in approved alternate courses in other departments.

The academic program consists of some classes given by this department and some alternates given by other departments with the approval of the professor of air science. All academic work counts toward graduation requirements.

The following courses have been selected to allow the cadet a choice of alternates. He will take one the first semester of the freshman year and one the second semester of the sophomore year. Note that they fill both AFROTC requirements for two semesters and a portion of the General Education requirements. Other courses will be approved on an individual basis for honor students, engineering majors, and cadets unable to schedule one of these: Economics 101; Geography 120, 231; History 111, 121; Journalism 101; Physics 100, 127, 128, 137; Political Science 110, and 112.

The following program is recommended for the four-year student. Others should consult the department chairman.

Freshman Year

	F	S
Air Science 110, 111	$\frac{1}{2}$	$\frac{1}{2}$
Air Science 101	2	2
Alternate course	2	
Regular program	14½-15½	14½-16½
Total Hours	17-18	17-19

Junior Year

	F	S
Air Science 330, 331	$\frac{1}{2}$	$\frac{1}{2}$
Air Science 301, 302	4	4
Regular program	12½-14½	12½-14½
Total Hours	17-19	17-19

Sophomore Year

	F	S
Air Science 220, 221	$\frac{1}{2}$	$\frac{1}{2}$
Air Science 201	2	
Alternate course	2	
Regular program	14½-16½	14½-16½
Total Hours	17-19	17-19

Senior Year

	F	S
Air Science 440, 441	$\frac{1}{2}$	$\frac{1}{2}$
Air Science 401, 402	1	1
Political Science 115	3	
Geography 441		3
Regular program	12½-14½	12½-14½
Total Hours	17-19	17-19

Lower Division Courses

- 101 (110, 111, 112). (Air Science 1). Foundations of Air Power 1. (2:2:0) S.** Staff

Freshman year: A general survey of the elements and potentials of air power, evolution of aerial warfare, air vehicles and principles of flight, propulsion systems, and the military arm of the government.

- 110, 111 (New). Leadership Laboratory—Freshmen. ($\frac{1}{2}$:0:2 ea.) F.S.** Staff
A practical learning situation in which the student learns and develops the basic fundamentals of military drill, self-discipline, military courtesy, military organization, and the various skills required at increasing levels of responsibility. The Cadet Corps provides the medium for progression from small unit leadership to command, instruction, planning, and management of men.

- 201 (220, 221, 222). (Air Science 2). Foundations of Air Power 2. (2:2:0) F.** McCulloch

Sophomore year: A survey of the concepts of employment of forces and elements of aerial warfare, including aircraft and missiles, space operations, and the impact of changing weapons systems: Included is an examination of professional opportunities in the USAF.

- 220, 221 (New). Leadership Laboratory—Sophomores. ($\frac{1}{2}$:0:2 ea.) F.S.** Staff

Upper Division Courses

- 301 (301, 302). (Air Science 3). Air Force Officer Development. (4:4:0) F.** Reasor

Junior year: Knowledge and skills required of a junior officer in the Air Force. Includes staff organization and functions, communicating, instructing, and techniques of problem solving.

- 302 (302, 303). (Air Science 3). Air Force Officer Development. (4:4:0) S.** Reasor

Junior year: Principles and practices of leadership. Includes basic psychology of leadership, the military justice system, and application of problem solving techniques and leadership theory to simulated and real Air Force problems.

- 330, 331 (New). Leadership Laboratory—Juniors. ($\frac{1}{2}$:0:2 ea.) F.S.** Staff

- 401 (412, 413). (Air Science 4). Weather and Navigation. (1:2:0) F. Staff**
 Senior year: A study of weather and navigational aspects of airmanship and maps and charts.
- 402 (413, 414). (Air Science 4). The Air Force Officer. (1:1:0) S. Gibson**
 Senior year: A study of materials to help the cadet make a rapid, effective adjustment to active duty as an officer of the United States Air Force.
- 440, 441 (New). Leadership Laboratory—Seniors. (½:0:2 ea.) F.S. Staff**

Additional Courses Required for AFROTC*

- Political Science 115 (115). (Air Science 4). International Relations. (3:3:0) F. Staff**
 Senior year: A study of major factors underlying international tensions. Political Science 370 is also acceptable to satisfy this requirement.
- Geography 441 (484). (Air Science 4). World Political Geography. (3:3:0) S. Staff**
 Senior year: A study of political geography, factors of power, and the geographic influences upon political problems with a geopolitical analysis of the strategic area.

*These courses are authorized substitutions for courses formerly taught by the Department of Air Science. They contain the same subject material and must be completed prior to graduation from AFROTC. They should be completed in the order indicated during the appropriate air science 4 semester. These courses are also acceptable for General Education requirements in the social science group.



Animal Husbandry

Professors: Morris (chairman, 150 B), Cannon.

Associate Professors: Richards, Shumway.

Assistant Professor: Hoopes.

Instructor: Mikkelsen*.

The Department of Animal Husbandry offers training for the following activities: (1) practical livestock farming and operation (2) livestock and herd managers (3) commercial and government agricultural positions (4) pre-veterinary preparation (5) preparation for study toward the M.S. and Ph.D. degrees, and (6) agricultural teaching when the program is planned in that direction.

A student may specialize in one of three areas of the animal sciences or in a combination of all three. He may specialize in the study of meat animals (beef, sheep, and swine), dairy husbandry, or poultry husbandry; but all majors must take the following courses in animal husbandry: 153, 207, 291, 311, and 592. The student may then elect the remainder of his major from the courses of his choice in the animal husbandry field. A minimum of twenty-four hours is required for an animal husbandry major.

Animal husbandry majors are encouraged to take more than the required number of hours needed for graduation in both the physical and biological sciences. (See "General Education Program" in the Student Academic Services section of this catalog.)

Animal husbandry students are required to take one or more courses from each of the following areas:

Agricultural Economics 101, 325, 410.

Agronomy 141, 251.

Horticulture 101 or 103, 310.

Students planning to return to the farm or to do service work should fill elective courses from the following areas depending on specific likes and desires (courses shown are merely suggested):

Agricultural Economics 101, 325, 360, 410, 425.

Agronomy 141, 251, 302, 305, 440, 451.

Bacteriology 121.

Botany 101, 440, 450, 462, 465.

Industrial Education 103, 120, 125, 285, 308, 341, 482.

Journalism 211, 571.

Speech 101 or 102, 121.

Requirements for those students preparing for a pre-veterinary program are listed under the College of Biological and Agricultural Sciences in this catalog.

Students planning to do graduate work should elect from the following courses:

Statistics 221, 431, 531.

Bacteriology 121, 331, 371, 501.

Botany 101, 376, 501.

Chemistry 111, 112, 113, 220, 221, 351, 352, 581, 582.

Mathematics 111, 112.

Zoology 212, 213, 365, 370, 373, 376, 417.

The schedule shown below is a suggested outline for animal husbandry majors.

Freshman Year			Sophomore Year		
	F	S		F	S
Animal Husbandry			Animal Husbandry		
153, 207	3	3	161, 170	3	3
Animal Husbandry			Animal Husbandry 120 ..		3
208, 291	1	2	Bacteriology 121 or Botany		
English 111, 112	3	3	101 or Zoology 105 ..	3	
Religion	2	2	Agronomy 141 or 251	3-4	
Physical education	1	1	Ag. Econ. 101		3
Health 130	2		Religion	2	2
Bacteriology 121 or Botany			Chemistry 101, 102 or		
101 or Zoology 105		3	111, 112	4-5	3-5
Agronomy 141 or 251	3-4				
Horticulture 101 or 103..	3	3	Total Hours	15-17	14-15
Total Hours	18-19	17			

Lower Division Courses

- 102x (102x). History of Breeds of Livestock.** (3) Home Study only. Richards
- 120 (120, 166). Livestock Judging and Selection.** (3:2:4) F. Shumway
A study of animal types and their relation to the functions of animals.
- 153 (215). Fundamentals of Animal Breeding.** (3:3:0) F. Richards
A study of the principles involved in breeding animals, including physiology of reproduction, heredity and variation, and selection and systems of breeding.
- 161 (161). Elements of Dairying.** (3:2:3) F. Home Study also. Richards
General principles of breeding, feeding, and management of dairy cattle.
- 162, 163 (162, 163, 164). Dairy Husbandry Practices.** (1-2:0:Arr.) F.S. Prerequisite: completion of or concurrent registration in Animal Husbandry 161. Richards
Each student is required to feed, care, manage, and milk his own cows at the University laboratory area. Feeding, sanitation, and management are stressed.
- 170 (170). General Poultry.** (3:2:2) S. Home Study also. Morris
A general course dealing with problems of feeding, housing, and management.
- 171 (171). Poultry Practices.** (1-2:0:Arr.) F.S. Prerequisite: Animal Husbandry 170.
Project and laboratory experience in raising broilers and young stock.
- 207 (207). Feeds and Feeding.** (3:3:0) F.S. Home Study also. Shumway
Principles of nutrition and their application to all types of farm animals.
- 208 (208). Fitting and Showing Livestock.** (2:0:6) S. Richards
Demonstrations and discussions involving preparation of each type of livestock for show. Each student is assigned animals to fit and show at one of the spring shows and the campus livestock show.

The following course also counts in animal husbandry:

Statistics 221. Principles of Statistics. (2:2:0)

Upper Division Courses

- 311 (311, 313). Animal Physiology and Anatomy.** (4:3:2) F. Prerequisite: Zoology 105, or equivalent. Hoopes

A study of the construction and functions of the animal body by systems. Emphasis is placed on the digestive and reproductive systems.

- 312 (312, 313). Animal Hygiene.** (4:3:3) S. Prerequisite: Animal Husbandry 311; recommended prerequisite: Bacteriology 121. Hoopes
Principles of animal sanitation in relation to disease prevention, with emphasis placed on the stockmen's approach to animal disease control.
- 325 (325). Meats and Meat Preparation.** (3:0:6) F.S. Home Study also. Hoopes
Care of the meat from slaughter to packaging, inspection of slaughtering and meat plants, processing, meat judging and selection.
- 330 (330). Horse Husbandry.** (2:0:4) S. Hoopes
A brief study of breeds of horses, with emphasis on feeding, training, and management.
- 335 (335). Beef Production.** (3:2:2) F. Home Study also. Prerequisite: Animal Husbandry 207. Shumway
The problems of breeding, feeding, and management of range cattle, feeder cattle, and purebreds.
- 337, 338 (337, 338, 339). Beef Husbandry Practices.** (1-2:0:Arr.) F.S. Shumway
Each student is required to feed, manage, and care for a designated number of beef animals.
- 340 (340). Sheep Production.** (2:0:4) S. Prerequisites: Animal Husbandry 153, 207. Shumway
Feeding, care, and management of farm and range sheep.
- 341 (341). Sheep Husbandry Practices.** (1-2:0:Arr.) F.S. Shumway
Each student is assigned a definite number of sheep for which he is required to care as well to keep records of feed consumption, gains, etc.
- 345 (345). Swine Production.** (2:0:4) S. Home Study also. Prerequisites: Animal Husbandry 153, 207. Shumway
Breeding, feeding, and management of swine of western farms.
- 346 (346). Swine Husbandry Practices.** (1-2:0:Arr.) F.S. Shumway
Practices in the care, feeding, and management of growing and fattening swine.
- 365 (365). Milk and Milk Processing.** (3:2:2) F. Hoskisson
Modern methods of producing, grading, and processing dairy products.
- 370 (370). Poultry Management.** (3:2:2) F. Morris
Management and business phases of poultry production. Problems involved in managing laying flocks, broilers, and replacement pullets.
- 373 (373). Poultry Diseases.** (3:2:2) F. Hoopes
A general treatise of poultry diseases, their control and treatment.
- 378 (378). Turkey Management.** (2:0:4) S. Morris
Principles, practices, and problems of turkey production, including brooding, feeding, growing, and marketing.
- 420 (420). Advanced Judging.** (2:0:6) S. Prerequisite: Animal Husbandry 120. Shumway
Advanced work in livestock judging. The judging team is selected from this class.
- 421 (New). Special Problems in Meat Animal Selection.** (1:0:3) F.
- 436, 437 (436, 437). Advanced Beef Husbandry Practices.** (1-2:0:Arr.) F.S. Shumway
Deals primarily with care and management of the beef breeding herd.

- 446, 447 (446, 447). Advanced Swine Husbandry Practices. (1-2:0:Arr.) F.S.**
Shumway
Care and management of the brood sow prior to, during, and the six to eight weeks following farrowing.
- 463 (463). Artificial Insemination. (2:0:4) F. Prerequisite: Animal Husbandry 153.**
Richards
Methods and techniques of artificial breeding are studied and accompanied by laboratory work.
- 464, 465 (464, 465, 466). Advanced Dairy Husbandry Practices. (1-2:0:Arr.) F.S.**
Richards
Specific instruction and responsibility are given in modern milking methods, care and handling of milk, the pregnant cow, young calf, the fresh cow, the lactating cow.

The following course also counts in animal husbandry:

Statistics 431. Statistical Methods. (3:3:0)

Advanced Undergraduate or Graduate Courses

- 507 (427, 477, 607). Animal Nutrition. (4:3:2) F.** Morris
- 515 (515, 362). Advanced Animal Breeding. (3:3:0) S.** Richards
- 560 (460, 564). Advanced Dairy Production. (4:3:3) S.** Richards
- 571 (571, 572). Advanced Poultry Practices. (1-2:0:Arr.) F.S.** Morris
- 592 (592, 593). Seminar. (2:2:0) S.** Cannon
A critical review and analysis of current research, findings, and methods in animal agriculture.

The following course also counts in animal husbandry:

Statistics 531. Experimental Design. (2:2:0)

Graduate Courses

- 601 (601). Experimental Techniques and Design. (2:2:0) F.S.** Cannon
- 660 (660). Advanced Livestock Management. (2:1:3) S.** Cannon
- 691, 692 (691, 692, 693). Animal Husbandry Research. (1-2:0:3-6) F.S.**
Staff
- 694, 695 (694, 695, 696). Animal Husbandry Research. (1-2:0:3-6) F.S.**
Staff
- 699 (699). Thesis for Master's Degree. (2-4:0:Arr.) F.S.Su.** Staff

Archaeology

Professor: Jakeman.

Associate Professor: Christensen (chairman, 203 ESC).

Archaeology is the science which investigates the history of man from the evidence of his actual material remains. By means of such evidence, it is able not only to reconstruct man's early unwritten history, but also to check, clarify, and supplement the records of his early written history.

The emphasis of this department is on the division of archaeology which has as its purpose the checking, clarification, and supplementation of the records of early written history, i.e., **historical archaeology**. Instruction is also offered, however, in the division of **prehistoric archaeology**, or the archaeological study of the pre-literate periods of human history.

Attention is also given to the methods of archaeological research, and provision is made for practical in-service training in field methods. Undergraduate students, for example, may participate in excavations at prehistoric Indian sites in Utah Valley, while graduate students have the opportunity of accompanying one of the department's periodic expeditions to Mexico and Central America.

An **undergraduate** major is not offered in this department. An undergraduate minor, however, may be obtained by completing 15 hours of work, including courses 200, 310, and 360. For the baccalaureate degree a combination of archaeology as the minor subject with history (if the main interest is in historical archaeology) or anthropology (if the main interest is in prehistoric archaeology) as the major, is recommended; also the following courses in other departments: Geography 101 and 312; English 215 and 216; Speech 101; Art 101, 122, and 403; French 101, 102, 201, and 301, or Spanish 101, 102, 201, and 301.

A **graduate** major or minor at the master's level is offered. The graduate major prepares the student for professional work in archaeology, such as teaching and/or research and writing, particularly in the division of historical archaeology.

In this department, courses not offered one year are ordinarily given the following year.

Lower Division Course

- 200 (150). Introduction to Archaeology.** (2:2:0) F.S.Su. (G-HA) Staff
Great discoveries in the history of archaeology, illustrating the aims and methods of this science; and the main fields and problems of modern archaeological research.

Upper Division Courses

- 310 (310). General Historical Archaeology I—Near-Eastern and Biblical.** (3:3:0) F.S.Su. (G-HA) Prerequisite: Archaeology 200. Staff
The principal archaeological discoveries in Iraq, Egypt, Palestine, and other Near Eastern lands, revealing the development of ancient oriental civilization, and checking and supplementing biblical history.
- 318 (318). General Historical Archaeology II—Classical and Christian.** (2:2:0) Not given this year. Prerequisite: Archaeology 200; recommended prerequisite: History 110. Jakeman
A survey of the antiquities of Greece, Italy, and other Mediterranean lands, illustrating the development of the ancient Graeco-Roman civilization and the early Christian church.

- 327 (327). Prehistoric Archaeology of the Old World.** (2:2:0) Not given this year. Prerequisite: Archaeology 200. Christensen
A study in prehistoric Old World archaeology, with special attention to the discoveries of the Indus Valley, Aegean, and other late pre-historic civilizations of the eastern hemisphere.
- 360 (360). Ancient Civilizations of the New World.** (3:3:0) F.S.Su. Prerequisite: Archaeology 200. Staff
A study in New World archaeology, with special attention to the discoveries throwing light upon the origin and history of the ancient civilizations of this hemisphere.
- 440 (388, 455). Archaeology and Early History of Middle America.** (3:3:0) Not given this year. Prerequisite: Archaeology 360. Jakeman
The early chronicled history of pre-Spanish Mexico and Central America, checked and supplemented by the archaeological history of this region.
- 480 (465). Archaeology of Andean South America.** (2:2:0) S. Prerequisite: Archaeology 360. Christensen
The archaeological history of Peru and neighboring countries of Andean South America. Special reference is made to the early chronicled history of this region.

Advanced Undergraduate or Graduate Courses

These courses are especially designed for students planning graduate work and a professional career in archaeology.

- 500 (601). History and Theory of Archaeology.** (3:3:0) Not given this year. Prerequisite: Archaeology 200. Christensen
A survey of the historical development of archaeology, with special attention to the theoretical foundations upon which this discipline has been built.
- 551 (531, 551). Methods of Archaeological Research—General and Field.** (4:0:2:4-8) F. Prerequisite: Archaeology 200. Christensen
The steps in an archaeological research project; and an introduction to field and laboratory methods, including student excavation of a prehistoric site in Utah Valley.
- 571 (571). Methods of Archaeological Research—Interpretative.** (3:3:0) S. Prerequisite: Archaeology 551. Christensen
Interpretation of empiric archaeological data as to culture units and their character and content, methods of chronological interpretation, and practice in archaeological ethnography and historiography.
- 590 (596, 597, 598). Recent Developments in Archaeology.** (4:2:6) Not given this year. Prerequisites: Archaeology 310, 318, or 327; 440 or 480; 500. Jakeman
Includes individual reports in two of the following fields: Near Eastern-biblical, Mediterranean (Aegean-classical-Christian), northern European, African, central and eastern Asiatic, Oceanian, Middle American, South American, North American.

Graduate Courses

The emphasis of these courses is on the two fields of historical (and late pre-historical) archaeology bearing upon the fundamental problem of the origin of civilization in the Old and New Worlds; i.e., Near Eastern and Middle American-Andean archaeology.

A course in the reading of ancient Mesopotamian cuneiform inscriptions, Egyptian hieroglyphics, or Hebrew inscriptions (see courses under Biblical Languages Department) should be taken, if possible, before the course "Library Research in Near-Eastern Archaeology" (695), while the course in the reading of

ancient Maya and Aztec hieroglyphics (631) should, if possible, be taken before the course "Library Research in Middle American-Andean Archaeology" (696).

631 (671, 672). Introduction to the Reading of Maya and Aztec Hieroglyphics. (3:1:6) F. Prerequisite: an undergraduate minor in archaeology. Jakeman

641 (590). Museum Methods and Teaching of Archaeology. (3:1:6) F. Prerequisite: an undergraduate minor in archaeology. Christensen
In-service training in archaeological museum methods and in the teaching of archaeology.

651 (590, 621, 631). Advanced Field Methods of Archaeology. (5:0:15) Not given this year. Prerequisites: an undergraduate minor in archaeology and Archaeology 551. Staff

Further in-service training in archaeological field methods as a member of one of the Brigham Young University archaeological expeditions to Mexico and Central America.

690 (594). Seminar in Historical Archaeology. (2:2:0) F. Prerequisites: an undergraduate minor in archaeology and Archaeology 590. Jakeman
Problems in historical archaeology, particularly the archaeology of the scriptures.

695 (650, 655). Library Research in Near-Eastern Archaeology. (2:0:6) F. Must be taken concurrently with Archaeology 690. Staff
Independent library research in oriental or biblical archaeology (Meso-potamian, Iranian, Egyptian, Syro-Palestinian, general oriental, or general biblical).

696 (660, 665). Library Research in Middle American-Andean Archaeology. (2:0:6) F. Must be taken concurrently with Archaeology 690. Staff
Independent library research in Middle American or Andean archaeology (Mesoamerican or Peruvian archaeological and chronicled history, Mesoamerican hieroglyphic decipherment, or research in the origin of the Middle American-Andean civilizations).

697 (695, 696). Field Research. (5-10:0:15-30) Not given this year. Prerequisites: Archaeology 590 and 651 (latter may be taken concurrently). Staff
Participation in an archaeological excavation in the Near East or Middle America, with opportunity for independent field research at the same or a nearby site.

699 (699). Thesis for Master's Degree. (5:0:15) S.Su. Prerequisites: Archaeology 571 and 695, 696, or 697. Staff



Art

Professors: Andrus (chairman, 315 E), de Jong, Larsen (emeritus), Mathews.

Associate Professors: Gunn, Turner.

Assistant Professors: Darais, Wilson.

Instructors: Burnside, Johansen, Magleby.

Special Instructor: Taylor.

The programs leading to a major in art are planned for those who desire to pursue a general art course, or to prepare for careers in art education, commercial art, interior design, painting, printmaking and painting, and sculpture and ceramics. Curricula for commercial art majors and those who are planning to teach art in the secondary schools may lead to either Bachelor of Arts or Bachelor of Science degrees. Students who elect programs in interior design, painting, printmaking and painting, sculpture and ceramics, or the general course, are encouraged to work toward a Bachelor of Arts degree.

Lower division requirements for the major in art include drawing (121 and 122) and design (227, 233, 239, 250, 256, and 263 or their equivalents). All programs begin with Art 121 followed by Art 122. The design requirements may be taken concurrently with the drawing requirements. Before attempting advanced design (310) the student must present to a faculty jury a portfolio of sixteen pieces of work, two from each of the required lower division classes. The portfolio should be presented during the spring semester of the sophomore year.

Upper division requirements include twenty-two hours of upper division work including six hours of art history. The lower and upper division requirements for each of the optional programs for the major in art will follow.

Students who intend to teach on the secondary level may fill a composite teaching major in art. The three areas from which the dominant and two supporting fields may be chosen are: (1) crafts, (2) drawing and painting, and (3) commercial art and interior design. Prospective art teachers may fill an art major designed for teachers and support this with a teaching minor in another department. A teaching minor in art is also offered.

The sequence of education courses begins with Education 301 in the second semester of the sophomore year. For details on these programs and for sequence of courses in education see "Preparation of Secondary School Teachers" in the College of Education section.

Art courses from which composite teaching majors may be chosen are grouped under the following headings:

Crafts: 250, 256, 263, 312, 350, 352, 356, 358, 359, 361, 362, 366.

Drawing and Painting: 227, 233, 321, 322, 327, 329, 333, 335, 474, 476, 580, 582.

Commercial Art and Interior Design: 239, 314, 341, 342, 343, 415, 417, 447, 448, 544, 546.

Optional Programs for a Major in Art:

Commercial Art

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 121	3	Art 306	3
Art 122	3	Art 310	2
Art 227	2	Art 322, 342, or 343	2
Art 233	2	Art 341	3
Art 239	2	Art 350 or 352	2
Art 250	2	Art 405	3
Art 256	2	Art 447 or 448	2
Art 263	2	Art 546	3
		Painting elective	2

Interior Design

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 121	3	Art history	6
Art 122	3	Art 310	2
Art 227	2	Art 314	2
Art 233	2	Art 362	2
Art 239	2	Art 415	3
Art 250	2	Art 417	3
Art 256	2	Art 501	2
Art 263	2	Art electives	4

Painting

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 121	3	Art history	6
Art 122	3	Art 310	2
Art 227	2	Art 321 or 322	2
Art 233	2	Art 327 or 329	2
Art 239	2	Art 333 or 335	2
Art 250	2	Art 474 or 476	2
Art 256	2	Art 580 or 582	2
Art 263	2	Painting electives	4

Printmaking and Painting

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 121	3	Art history	6
Art 122	3	Art 310	2
Art 227	2	Art 314	2
Art 233	2	Art 322	2
Art 239	2	Art 327 or 329	2
Art 250	2	Art 333 or 335	2
Art 256	2	Art 350	2
Art 263	2	Art 352	2
		Art 474 or 476	2

Sculpture and Ceramics

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 121	3	Art history	6
Art 122	3	Art 310	2
Art 227	2	Art 321 or 322	2
Art 233	2	Art 350 or 352	2
Art 239	2	Art 356	2
Art 250	2	Art 358	2
Art 256	2	Art 359	2
Art 263	2	Art 361	2
		Art 366	2

General Art

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 121	3	Art history	6
Art 122	3	Art 310	2
Art 227	2	Art 321 or 322	2
Art 233	2	Oils	4
Art 239	2	Water colors or prints	2
Art 250	2	Ceramics or sculpture	2
Art 256	2	Crafts or interior design	2
Art 263	2	Art 501	2

Teaching Art

Lower Division		Upper Division	
Requirements	Hours	Requirements	Hours
Art 121	3	Art history	6
Art 122	3	Art 310	2
Art 227	2	Art 321 or 322	2
Art 233	2	Art 341 or 312	2
Art 239	2	Art 350 or 352	2
Art 250	2	Art 356	2
Art 256	2	Art 361	2
Art 263	2	Art 366	2
		Painting elective	2

Lower Division Courses

- 101 (101). **Introduction to Art.** (2:2:0) F.S. (G-HA) Turner
 A survey of art appreciation. Introduction to basic understanding in art with emphasis on art processes through lectures, demonstrations, and studio and gallery visits. (Not for art majors.)
- 108 (New). **General Art.** (2:2:2) F.S.Su. (G-HA) Staff
 Introduction to appreciation and creative expression. Lectures, demonstrations, and exploratory experiences in painting, lettering, crafts, print-making, and modeling. Offered to meet the needs of students filling General Education requirements who wish to participate in art activities. (Not for art majors.)
- 110 (110). **Design in Everyday Life.** (2:3:0) F.S. (G-HA) Staff
 A study of good taste and sensitivity to design in contemporary life. (Not for art majors.)
- 121 (121). **Introduction to Drawing.** (3:6:0) F. Darais, Johansen, Staff
 The principles of art as applied to drawing. Work in perspective, accurate representation, and individual interpretation and expression.

- 122 (122). **Basic Figure Drawing.** (3:6:0) S.Su. Andrus, Gunn, Magleby
Drawing from the model. A study of an experience with the elements of graphic expression.
- 227 (227). **Design in Oil Painting.** (2:4:0) F.S.Su. Turner, Staff
Oil colors as a design medium. Emphasis on expressive use of the oil paints.
- 233 (233). **Design in Water Color Painting.** (2:4:0) F.S.Su. Turner
Survey and application of the various techniques of water color painting, with emphasis on design.
- 239 (239, 240). **Design (Layout and Lettering).** (2:3:0) F.S. Staff
Basic skills in lettering and designing for commercial purposes.
- 250 (250). **Design in Printmaking.** (2:4:0) F.S.Su. Andrus
Introduction to fine printmaking as a medium of design including the relief, intaglio, planographic and stencil processes.
- 256 (256, 259). **Design in Plastic Art Media.** (2:4:0) F.S.Su. Wilson
Exploratory design experiences with a variety of ceramic and sculptural materials in creating expressive form through the use of direct working processes.
- 263 (263). **Design in Crafts.** (2:4:0) F.S.Su. Johansen
Creative design in metal, wood, leather, mosaic, textile, and other media.

Upper Division Courses

- 306 (306). **Art History and Appreciation.** (3:3:0) F.S. (G-HA) Mathews
A survey of the art of the Western world covering the various periods including the contemporary styles in the 19th and 20th centuries.
- 307 (307). **Contemporary Art.** (2:2:0) S.Su. (G-HA) Burnside, Mathews
The rise and progress of contemporary art in Europe and America.
- 308 (308). **American Art.** (2:2:0) F. (G-HA) Burnside
A survey of American painting, architecture, and sculpture from the 17th century to the present.
- 310 (310). **Advanced Design.** (2:4:0) F.S. Prerequisites: Art 121, 122, 227, 233, 239, 250, 256, 263. Darais
Art structure as a means for expression of ideas and emotions.
- 312 (New). **Product Design.** (2:2:2) F. Prerequisites: Art 121, 122, 227, 239, 250, 263. Johansen, Magleby
Planning and making packages, models, or mock-ups. Emphasis on visual appeal.
- 314 (314). **Interior Design.** (2:2:0) F. Taylor
Decorative and functional features of the interior of the home.
- 321 (315). **Interpretive Drawing.** (2:4:0) F. Prerequisites: Art 121, 122, 239, 250. Darais, Staff
Expressive use of the elements of visual communication. Emphasis upon personal selection and interpretation of motifs.
- 322 (322). **Advanced Figure Drawing.** (2:4:0) S.Su. Prerequisites: Art 121, 122, 239, 250. Andrus, Staff
Advanced work in drawing the human figure with emphasis on structure and individuality of expression.
- 327 (327, 328). **Landscape and Still Life Painting.** (2:4:0) F. Prerequisites: Art 121, 122, 227. Turner, Staff
Oil painting from landscape and still life objects with emphasis on developing the individual expressive capacities of the students.

- 329 (328, 329). **Landscape and Still Life Painting.** (2:4:0) S. Prerequisites: Art 121, 122, 227. Turner
Oil painting from landscape and still life objects with emphasis on developing the individual expressive capacities of the students.
- 333 (333, 334). **Water Color Painting.** (2:4:0) F.Su. Prerequisites: Art 121, 122, 233. Turner
Development of basic skills in water color painting from landscape and still life objects. Experience in the use of transparent water colors emphasized.
- 335 (334, 335). **Water Color Painting.** (2:4:0) S.Su. Prerequisites: Art 121, 122, 233. Turner
Development of basic skills in water color painting from landscape and still life objects. Experience in working with various aqueous media.
- 341 (341). **Layout.** (3:3:0) F. Prerequisites: Art 121, 122, 239. Gunn
Creation of the idea and organization of visual elements for commercial design.
- 342 (342). **Illustration.** (2:3:0) S. Prerequisites: Art 121, 122, 239. Gunn
Introduction to editorial and advertising illustration, exploration of tools and media, visualization of the idea, approaches to rendering.
- 343 (343). **Fashion Illustration.** (2:3:0) S. Prerequisites: Art 121, 122, 239. Gunn
Introduction to fashion illustration. The gesture proportion, and effective linear expression of the fashion figure; approaches to rendering apparel and the development of individual style.
- 350 (350, 351). **Printmaking Workshop.** (2:4:0) F.Su. Prerequisites: Art 121, 122, 250. Andrus
Relief and intaglio fine printmaking based upon traditional and contemporary concepts, materials, and procedures.
- 352 (351, 352). **Printmaking Workshop.** (2:4:0) S. Prerequisites: Art 121, 122, 250. Andrus
Lithography and silk screen based upon traditional and contemporary concepts, materials, and procedures.
- 356 (356, 357). **Sculpture.** (2:4:0) F.S.Su. Prerequisites: Art 121, 122, 256. Johansen
Methods of creating expressive sculptural form which emphasize the direct working processes of modeling, buildup, and construction.
- 358 (357, 358). **Sculpture.** (2:4:0) S. Prerequisites: Art 121, 122, 256. Johansen
Methods of creating expressive sculptural form which emphasize the cutting and casting processes, encouraging an experimental use of materials.
- 359 (359, 360). **Ceramics.** (2:4:0) F.S.Su. Prerequisites: Art 121, 122, 256. Wilson
Basic methods of creating functional and expressive objects from clay. Forming processes from constructing and throwing, through decorating and glazing to the final fired product.
- 361 (360, 361). **Ceramics.** (2:4:0) F.S.Su. Prerequisites: Art 121, 122, 256. Wilson
Advanced and experimental methods of creating functional and/or expressive objects from clay. Concentration on the development of clay bodies and glazes using a variety of firing processes.
- 362 (362). **Textile Crafts.** (2:4:0) F.S. Prerequisites: Art 121, 122, 250, 263. Johansen
Silk screen, block printing, stenciling, painting, and dyeing as media for textile design.

- 366 (366). Metal Crafts and Jewelry Design.** (2:4:0) S.Su. Prerequisites: Art 121, 122, 263 (non-art majors, 263 only). Johansen
Creative design of copper, silver, aluminum, and other media used in etching, enameling, forming and modeling, soldering, silver casting, lapidary, etc.
- 403 (403, 404). Ancient and Primitive Art.** (2:2:0) F. (G-HA) Mathews
The history of ancient art including Egypt, Mesopotamia, and Greece. Primitive cultures include African Negro, Pacific Islands, American Indian, and Pre-Columbian.
- 405 (404, 405). Medieval and Renaissance Art.** (3:3:0) S. (G-HA) Burnside
The history and appreciation of Medieval and Renaissance painting, sculpture, and architecture.
- 415 (415, 416). Interior Design.** (3:3:0) F. Prerequisites: Art 310, 314. Taylor
A history of interior design and a study of period furnishings. (Continued in Art 417.)
- 417 (416, 417). Interior Design.** (3:3:0) S. Prerequisites: Art 310, 314, 415. Taylor
A practical study of the manufacture, design, installation, and care of media and materials used in interior design.
- 447 (447). Portrait Photography.** (2:4:0) F. Prerequisites: Art 121, 122, 239. Staff
General portrait studio and darkroom procedures with emphasis upon the plastic quality of light on the human head and figure.
- 448 (448). Pictorial Photography.** (2:4:0) S. Prerequisites: Art 121, 122, 239. Staff
The study of art structure in its application to photography. Experience in photographing landscape, still life, and the human figure.
- 474 (474, 475). Portrait and Figure Painting.** (2:4:0) F.S. Prerequisites: Art 121, 122, 227. Andrus
Oil painting from the model with emphasis on design and the development of a personal method.
- 476 (475, 476). Portrait and Figure Painting.** (2:4:0) S. Prerequisites: Art 121, 122, 227. Andrus
Oil painting from the model with emphasis on design and the development of an expressive style.

Art Education

- 226 (226). Art for Elementary Teachers.** (2:2:1) F.S. Staff
Role of art in public schools; basic art education theory, including levels of artistic growth, classroom activities and aesthetic experiences for teacher growth.
- 377 (377). Basic Classroom Procedures.** (3:3:0) F. Prerequisite: Art 301. Gunn
- 479 (479). Secondary Student Teaching.** (8:0:0) Su. Prerequisite: Art 377. Gunn

Advanced Undergraduate or Graduate Courses

- 501 (501). Aesthetics.** (2:2:0) S. deJong
Theoretical and practical criteria of aesthetic values.
- 544 (544, 545). Portfolio Preparation.** (2:3:0) F. Prerequisites: Art 122, 239, 341, 342. Gunn
An analysis of individual strengths and weaknesses. Specialization opportunities provided in various areas of commercial design and display. Preparation of portfolio emphasized.

- 546 (545, 546). **Advanced Commercial Art.** (3:4:0) S. Prerequisite: Art 544. Gunn
Professional standards in a specialized field of commercial art emphasized. Students judged proficient by a faculty committee are given experience in a practicing agency.
- 580 (580, 581). **Mural Painting.** (2:4:0) F. Prerequisites: Art 310, 321 or 322. Darais
Historical backgrounds, design, and execution of murals.
- 582 (581, 582). **Mural Painting.** (2:4:0) S. Prerequisites: Art 310, 321 or 322. Darais
Historical backgrounds, design, and execution of murals.
- 586 (586, 587). **Studio Art.** (1-3:2-4:2-4) F.Su. Prerequisite: permission of department chairman. Staff
- 588 (587, 588). **Studio Art.** (1-3:2-4:2-4) S. Prerequisite: permission of department chairman. Staff

Graduate Courses

- 615 (615, 616). **Period Furnishing and Other Decorative Material for Interior Design.** (3:3:0) F. Taylor
- 617 (616, 617). **Practical Problems in Interior Design.** (3:3:0) S. Taylor
- 621 (621, 623). **Advanced Drawing and Painting.** (1-3:Arr.:Arr.) F. Andrus
- 622 (622, 623). **Advanced Figure Drawing and Painting.** (1-3:Arr.:Arr.) S. Andrus
- 624 (624). **Advanced Landscape Painting.** (1-3:Arr.:Arr.) F. Turner
- 625 (625, 626). **Advanced Still Life Painting.** (1-3:Arr.:Arr.) S. Turner
- 627 (627). **Pictorial Composition.** (1-3:Arr.:Arr.) F. Turner
- 629 (628, 629). **Pictorial Design.** (1-3:Arr.:Arr.) S. Darais
- 633 (633, 634). **Advanced Water Color Painting.** (1-3:Arr.:Arr.) F. Turner
- 635 (635). **Advanced Aqueous Painting Media.** (1-3:Arr.:Arr.) F. Turner
- 639 (639). **Advanced Layout.** (1-3:Arr.:Arr.) F. Gunn
- 642 (642). **Advanced Illustration.** (1-3:Arr.:Arr.) S. Gunn
- 650 (650, 651). **Advanced Relief and Intaglio Printmaking.** 1-3:Arr.:Arr.) F. Andrus
- 652 (651, 652). **Serigraphy and Color Lithography.** (1-3:Arr.:Arr.) S. Andrus
- 656 (656, 657). **Advanced Sculpture.** (1-3:Arr.:Arr.) F. Johansen
- 658 (657, 658). **Advanced Sculpture.** (1-3:Arr.:Arr.) S. Johansen
- 665 (665). **Advanced Ceramics.** (1-3:Arr.:Arr.) F.S. Wilson
- 666 (666). **Advanced Metal and Jewelry Design.** (1-3:Arr.:Arr.) F.S. Johansen
- 668 (668). **Teaching Art in Secondary Schools.** (1-3:Arr.:Arr.) S. Staff
- 671 (671). **Survey of Recent Studies in Art Education.** (1-3:Arr.:Arr.) F. Gunn
- 674 (674, 675). **Advanced Portrait Painting.** (1-3:Arr.:Arr.) F. Andrus
- 676 (675, 676). **Advanced Figure Painting.** (1-3:Arr.:Arr.) S. Andrus

- 680 (680, 681). Advanced Mural Design and Painting. (1-3:Arr.:Arr.) F. Darais
- 682 (681, 682). Advanced Mural Design and Painting. (1-3:Arr.:Arr.) S. Darais
- 686 (686, 687). Studio Art. (1-3:Arr.:Arr.) F. Staff
- 688 (687, 688). Studio Art. (1-3:Arr.:Arr.) F. Staff
- 690 (690, 691). Color. (2:2:0) F. Andrus
- 692 (691, 692). Color. (2:2:0) S. Andrus
- 695 (695). Seminar. (1:1:0) F.S. Staff
- 699 (699). Thesis for Master's Degree. (1-4:Arr.:Arr.) F.S. Staff



Bacteriology

Professors: Beck, Larsen.

Associate Professor: Donaldson.

Assistant Professors: R. Sagers (chairman, 110 B), Hoskisson.

Instructor: Chugg.

Special Instructors: Call, Carlquist, LeCheminant, G. Sagers.

The curriculum of the Department of Bacteriology is designed to accomplish the following objectives: (1) train competent bacteriologists and medical technologists, (2) provide a basic background for all students' general education, and (3) serve other departments that request or require specific training in microbiology.

The minimum requirements for a major in the Bacteriology Department are completion of the following courses or their equivalents in bacteriology and supporting fields: bacteriology, 20 hours; zoology or botany, 6 hours; Chemistry 105, 106, 220, 284; and Mathematics 111. Recommended courses in supporting fields are: Botany 101, 335, 376, 440; Chemistry 111, 112, 113, 221, 351, 352, 581, 582; Mathematics 111, 112, 213, 214; Physics 201, 202; and Zoology 105, 261, 376, 417.

Bacteriology Major

The following curriculum is recommended for students who desire adequate preparation for post-graduate university training in bacteriology. The courses in physics, advanced mathematics, and advanced chemistry may be replaced by other courses in the physical or biological sciences by students who do not plan to do graduate work.

Freshman Year			Sophomore Year		
	F	S		F	S
Chemistry 111, 112	4	3	Chemistry 113, 221	3	3
Mathematics 111, 112 ..	5	5	Physics 201, 202	4	4
English 111, 112	3	3	Mathematics 213	5	
Health 130	2		Zoology 105 or 213		3-4
Religion	2	2	Religion	2	2
History 170		3	English literature	3	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Humanities		3-4
			Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	15 $\frac{1}{2}$ -17 $\frac{1}{2}$
Junior Year			Senior Year		
	F	S		F	S
Bacteriology 331, 501	4	4	Bacteriology 491	1	1
Chemistry 351, 352	3	3	Bacteriology 511, 531 ..	3	2
Chemistry 354, 355	1	1	Bacteriology 532		1
Language	3	3	Bacteriology 502 or 541 ..	2	
Religion	2	2	Bacteriology 551		2
Social science	2-3	2-3	Bacteriology 552		2
Electives	1	2	Chemistry 581, 582	3	3
			Chemistry 584, 585	2	2
			Botany 101	3	
			Religion	2	2
			Elective		2
Total Hours	16-17	17-18	Total Hours	16	17

Medical Technology Major

Through a cooperative agreement with various hospitals, Brigham Young University has made provision for training medical technologists. The curricula are designed to prepare students for careers in clinical laboratories and medical research laboratories. The curriculum indicated in the following outline consists of a three-year period of residence study at the Brigham Young University campus and one year of practical hospital internship.

During the fourth year (internship) the student will register and pay tuition. After satisfactory completion of the internship the student is eligible to receive a Bachelor of Science degree.

Failure to achieve a cumulative grade-point average of 2.0 by the end of the sophomore year will be considered sufficient reason to disqualify a student from further participation in the Medical Technology program.

Freshman Year			Sophomore Year		
	F	S		F	S
Mathematics 101*, 111 ..	3	5	Chemistry 106, 284	4	4
Chemistry 105		4	Physics 201	4	
Zoology 105 or 213	3-4		Zoology 261		4
English 111, 112	3	3	Bacteriology 331		4
Health 130	2		Literature		3
Religion	2	2	Religion	2	2
Social science	3		Social science	2	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Humanities	3	
Electives		3	Physical education	$\frac{1}{2}$	$\frac{1}{2}$
<hr/>			<hr/>		
Total Hours	16 $\frac{1}{2}$ -17 $\frac{1}{2}$	17 $\frac{1}{2}$	Total Hours	15 $\frac{1}{2}$	17 $\frac{1}{2}$

*A student able to bypass Mathematics 101 should contact his adviser and receive alternate curriculum.

Junior Year			Senior Year		
	F	S		F	S
Bacteriology 511, 501	4	3			
Bacteriology 491	1	1			
Bacteriology 391		2			
Zoology 376 or Botany 376		4			
Zoology 417	3				
Chemistry 220	4				
History 170	3				
Religion	2	2	Bacteriology 401, 402, 403	15	
Humanities	2	2	Bacteriology 404, 405, 406		15
Electives		3			
<hr/>			<hr/>		
Total Hours	17	17	Total Hours	15	15

Lower Division Courses

121 (121). General Bacteriology. (3:2:3) F.S. Home Study also, 2 hours credit. (G-BS) Staff

Recommended for all students seeking a liberal education in bacteriology who do not have the necessary prerequisites to take the more advanced courses in bacteriology. Special sections of this course are offered for nursing students. This course is required of majors in a number of departments.

Upper Division Courses

- 311 (311). Sanitation and Public Health.** (2:2:0) F.S. Home Study also. Staff
(G-BS)
Sanitary and public health practices. For students desiring a basic course in the role of the individual and the community in promoting health and preventing disease.
- 321 (New). General Microbiology.** (3:3:0) F.S. (G-BS) Prerequisites: any chemistry course or Physical Science 101 and 102, and any zoology or botany course. Staff
The microbial world. Recommended for all students seeking a liberal education in bacteriology who have completed the necessary prerequisites.
- 322 (New). General Microbiology Laboratory.** (1:0:3) F.S. Prerequisite: concurrent or previous registration in Bacteriology 321. Staff
- 331 (301). Microbiology.** (4:2:6) F.S. (G-BS) Prerequisite: any organic chemistry course. Staff
Introduction to bacteriology. The first bacteriology course for all students majoring or minoring in bacteriology or medical technology and any other students having the necessary prerequisites and desiring a comprehensive course in bacteriology.
- 361 (361). Food Microbiology.** (2:1:3) F. Prerequisite: Bacteriology 121 or equivalent. Hoskisson
The microbiology of food.
- 371 (371). Dairy Microbiology.** (2:1:3) S. Prerequisite: Bacteriology 121 or equivalent. Hoskisson
The microbiology of dairy products.
- 381 (381). Water and Sewage Microbiology.** (2:1:3) S. Prerequisite: Bacteriology 121 or equivalent. Hoskisson
The microbiology of water purification and sewage disposal.
- 391 (391). Clinical Pathology.** (2:1:3) S. Prerequisite: Bacteriology 331. Call, LeCheminant
The theory and application of diagnostic methods employed in hospital laboratories.
- 401, 402, 403 (401, 402, 403). Applied Clinical Diagnosis Laboratory.** (5:2:3:6-10) S. Staff
Applied clinical work is done in an approved hospital during a year's practical internship. Hospital selected must be accredited by Council of Medical Education of the A.M.A., and its pathologist and radiographic technician recognized by the American Society of Clinical Pathologists. Credit is given on basis of a statement from the approved pathologist that student has satisfactorily completed work.
- 401, 402, 403 (401, 402, 403). Applied Clinical Diagnosis Laboratory.** (5:2:3:6-10) S. Staff
- 491 (491). Seminar.** (1:1:0) F.S. Staff
- 495 (495). Special Problems.** (1-4:Arr.:Arr.) F.S. Staff
Individual work on research problems based on the previous preparation of the student.

This course also counts in bacteriology:

Botany 335. Fungi. (3:1:6)

Advanced Undergraduate or Graduate Courses

- 501 (501). Pathogenic Microbiology.** (4:2:6) S. Prerequisite: Bacteriology 331 or consent of instructor. Larsen

A study of the characteristics of pathogenic bacteria, viruses, rickettsia, yeasts, and molds.

- 502 (502). **Pathogenic Microbiology.** (2:1:3) F. Prerequisite: Bacteriology 501. Larsen
Continuation of Bacteriology 501.
- 511 (511). **Immunology.** (3:2:3) F. Prerequisite: Bacteriology 501 or consent of instructor. Donaldson
Theories of immunity; training in serological methods.
- 521 (521). **Industrial Microbiology.** (2:2:0) F. Prerequisites: Bacteriology 331 and biochemistry. Larsen
The role of microorganisms in the production of such products as acids, alcohols, antibiotics, vitamins, and enzymes.
- 522 (522). **Industrial Microbiology Laboratory.** (1:0:3) F. Prerequisite: completion of or concurrent registration in Bacteriology 521. Larsen
- 531 (531). **Virology.** (2:2:0) S. Prerequisite: Bacteriology 501. Staff
Characteristics of viruses and virus diseases.
- 532 (532). **Virology Laboratory.** (1:0:3) S. Prerequisite: completion of or concurrent registration in Bacteriology 531. Staff
- 541 (541). **Cultivation and Nutrition of Bacteria.** (2:0:6) S. Prerequisite: Bacteriology 331. R. Sagers
A laboratory study of selective enrichment techniques, fundamental nutritional requirements, and growth properties of the major taxonomic groups of bacteria.
- 551 (551, 651). **Advanced Microbiology.** (3:3:0) S. Prerequisite: Bacteriology 331. Beck, R. Sagers
- 552 (552, 652). **Advanced Microbiology Laboratory.** (1-2:0:3-6) S. Prerequisite: completion of or concurrent registration in Bacteriology 551. Beck, R. Sagers
- 561 (561). **Radioactive Tracer Techniques in Biology.** (2:0:6) F. Prerequisite: consent of instructor. Beck
- 581 (581). **History of Bacteriology.** (1:1:0) F. Prerequisite: senior or graduate status. Larsen

Graduate Courses

- 611 (611). **Advanced Immunology.** (2:2:0) S. Prerequisite: Bacteriology 511. Donaldson
- 651 (New). **Special Topics in Bacterial Metabolism.** (2:2:0) F. Prerequisite: Bacteriology 552. Beck
- 661 (661). **Bacterial Genetics.** (2:2:0) F. Prerequisites: Bacteriology 331, a course in general genetics, and Chemistry 582 or equivalent. Staff
A study of genetic processes in bacteria and viruses, with special emphasis on recombination, transduction, mutation, replication mechanisms, and related topics.
- 662 (New). **Bacterial Genetics Laboratory.** (1:0:3) F. Prerequisite: completion of or concurrent registration in Bacteriology 661. Staff
- 691 (691). **Graduate Seminar.** (1:1:0) F.S. Staff
- 695 (695). **Research to Furnish Data for Thesis.** (1-10:Arr.:Arr.) F.S. Staff
- 699 (699). **Thesis for Master's Degree.** (1-4:Arr.:Arr.) F.S. Staff
- 797 (New). **Doctoral Candidate Research.** (Arr.) F.S. Staff
- 799 (New). **Dissertation for the Ph.D. Degree.** (Arr.) F.S. Staff

This course also counts in bacteriology:

Agronomy 614. **Advanced Soil Microbiology.** (3:2:3)

Bible and Modern Scripture

Professors: Done, Ludlow, Sperry, Yarn.

Associate Professors: Barron (chairman, 316 JK), Andrus, Clark.

Assistant Professors: Anderson, Bankhead, Barrett, Bentley, Doxey, Patch, Pearson, Rasmussen, Ricks, Turner.

Instructors: Meservy, Nielsen.

Courses in the Department of Bible and Modern Scripture are offered to help students meet the religion requirements of the University. An undergraduate major or minor is not offered in this department. A graduate major or minor is offered at both the master's and doctoral levels. (See section on College of Religious Instruction.)

BIBLE

Lower Division Courses

- 211 (123, 124). **Introduction to the New Testament: Jesus and the Apostles.**
(2:2:0) F.S.Su. Home Study also. (G-R) Staff
Deals with the Gospels and part of the book of Acts.
- 212 (125). **Introduction to the New Testament: Paul and the Early Church.**
(2:2:0) F.S.Su. Home Study also. (G-R) Staff
Deals with Paul and his letters and the literature of the early Church.

Upper Division Courses

- 301, 302 (301, 302, 303). **Introduction to the Old Testament and Its Teachings.**
(2:2:0 ea.) F.S.Su. Home Study also. (G-R) Done, Meservy, Rasmussen
Course 301 is a brief introduction to the structure of the Old Testament and study of its great teachings, Genesis to I Kings 11. Course 302 considers I Kings 12 to Malachi.
- 401 (311). **Israel's Prophets.** (2:2:0) S.S.Su. (G-R) Recommended prerequisites: Bible 301 and 302. Meservy, Rasmussen, Sperry
The messages of the great "Writing Prophets" and their value in their time and ours.
- 411 (623). **Life and Teachings of Jesus.** (2:2:0) F.S.Su. (G-R) Bentley, Patch, Ricks, Sperry, Turner
The teachings of Jesus Christ and the major events of his life.

Advanced Undergraduate or Graduate Courses

- 501 (304). **Analysis of the Old Testament: The Pentateuch and Historical Books.** (3:3:0) F.S.Su. Meservy, Rasmussen
- 502 (603). **Analysis of the Old Testament: Prophetic Books.** (2:2:0) F. Meservy, Rasmussen
- 503 (606). **Analysis of the Old Testament: Poetic and Wisdom Literature.** (2:2:0) S. Meservy, Rasmussen
- 511 (624). **Paul's Life and Letters.** (2:2:0) F. Bentley, Patch, Ricks, Sperry, Turner
- 512 (625). **The General Epistles and the Apocalypse.** (2:2:0) S. Bentley, Patch, Ricks, Sperry, Turner
- 513 (622). **New Testament Times.** (2:2:0) S.Su. Patch, Ricks, Sperry

Graduate Courses

- 601 (602). History of the Hebrews. (3:3:0) F.S. Meservy, Rasmussen, Sperry
- 604 (601). The Literature of the Old Testament. (2:2:0) F.S.
Meservy, Rasmussen, Sperry
- 605 (604). Canon and Text of the Old Testament. (2:2:0) S. Staff
- 606 (605). The Apocrypha and Pseudepigrapha. (2:2:0) S.Su. Nibley
- 607 (619). Religion of the Old Testament. (2:2:0) F.Su. Staff
- 608 (607). Cultural and Religious Patterns of the Ancient Near East. (2:2:0)
S.Su. Sperry
- 610 (621). Early Christian Literature. (2:2:0) F.Su. Staff
- 611 (626). Formation of the New Testament: Text and Canon. (2:2:0) S.Su.
Patch, Ricks, Sperry
- 612 (627). Textual Criticism of the New Testament. (2:2:0) S.Su. Staff
- 709 (590). Seminar: Old Testament. (2:2:0) F.S.Su. Staff
- 710 (649). Seminar: New Testament. (2:2:0) F.S.Su. Staff
- 711 (641). Readings in Greek: The Gospel and Acts. (3:3:0) F. Prerequisite:
ability to pass departmental examination in Greek. Staff
- 712 (642). Readings in Greek: Paul's Letters. (3:3:0) S. Prerequisite: ability
to pass departmental examination in Greek. Staff
- 713 (643). Readings in Greek: General Epistles and the Apocalypse. (3:3:0)
S.Su. Prerequisite: ability to pass departmental examination in Greek. Staff

SCRIPTURE

Lower Division Course

- 221, 222 (111, 112, 113). Introduction to the Book of Mormon and Its Teach-
ings. (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Staff
Consideration of origin, content, and teachings of the Book of Mormon.

Upper Division Courses

- 324, 325 (331, 332, 333). The Doctrine and Covenants. (2:2:0 ea.) F.S.Su.
Home Study also. (G-R) Andrus, Doxey, Nielsen
Origin and contents of the Doctrine and Covenants.
- 327 (338, 339). Introduction to the Pearl of Great Price. (2:2:0) F.S.Su. Home
Study also. (G-R) Andrus, Clark
Origin and content of the Pearl of Great Price.
- 421, 422 (322, 323, 324). History and Teachings of the Book of Mormon.
(2:2:0 ea.) F.S.Su. (G-R) Bankhead, Ludlow, Nielsen,
Pearson, Ricks, Turner
Selected problems and teachings of Nephite sacred scripture.

Advanced Undergraduate or Graduate Course

- 527 (653). History and Doctrines of the Pearl of Great Price. (2:2:0) F.S.Su.
Andrus, Clark

Graduate Courses

- 621 (524). Analysis of the Book of Mormon. (3:3:0) F.S.Su.
Ludlow, Ricks, Sperry

- 624 (652). Analysis of the Doctrine and Covenants. (2:2:0) F.S.Su. Andrus, Doxey
- 627 (592). Seminar: Pearl of Great Price. (2:2:0) F.S.Su. Andrus, Clark
- 699 (699). Thesis for Master's Degree. (1-4:Arr.:Arr.) F.S.Su. Staff
- 721 (651). Seminar: Book of Mormon. (2:2:0) F.S.Su. Ludlow, Ricks, Sperry
- 724 (591). Seminar: Doctrine and Covenants. (2:2:0) F.S.Su. Andrus, Doxey
- 728 (659). Readings in Modern Scripture. (1-2:Arr.:Arr.) F.S.Su. Staff
- 799 (799). Doctoral Dissertation. (Arr.) F.S.Su. Staff



Biblical Languages

Professors: Nibley, Sperry.

Assistant Professor: Rasmussen (chairman, 19 PhP).

Instructor: Meservy.

An undergraduate major or minor is not offered in this department. A graduate major or minor is offered at the master's level but not at the doctoral level as yet. (See section on the College of Religious Instruction.)

Advanced Undergraduate or Graduate Courses

591, 592 (511, 512, 513). Biblical Hebrew. (5:5:0 ea.) F.S. No prerequisite. Meservy, Rasmussen

A beginning course in the classical Hebrew of the Old Testament. Valuable for students and teachers as a tool for interpreting and appreciating the Bible.

593, 594 (514, 515, 516). Hebrew Grammar and Selected Readings. (3:3:0 ea.) F.S. Prerequisite: Biblical Languages 591, 592 or equivalent acquaintance with Hebrew. Meservy, Rasmussen

Graduate Courses

690 (601, 602). Readings in Hebrew Old Testament. (3:3:0) F. Prerequisite: two years of Hebrew or consent of instructor. Meservy, Rasmussen, Sperry

691 (602, 603). Readings in Hebrew. (3:3:0) S. Prerequisite: Hebrew 690. Meservy, Rasmussen, Sperry

693, 694 (607, 608, 609). Biblical Aramaic and the Targums. (2:2:0 ea.) Su., 1961. Prerequisite: at least one year of Biblical Hebrew. Meservy, Sperry

699 (699). Thesis for Master's Degree. (Arr.) F.S.Su. Staff

791 (611, 612, 613). Syriac. (5:5:0) F., 1961. Prerequisite: two years Biblical Hebrew or one year Aramaic. Meservy, Sperry

792 (614, 615, 616). Syriac. (3:3:0) S., 1962. Prerequisite: Biblical Languages 791. Meservy, Sperry

793, 794 (621, 622, 623). Akkadian. (2:2:0 ea.) F.S., 1962-63. Prerequisite: two years Biblical Hebrew. Meservy, Sperry

797, 798 (New). Ugaritic. (3:3:0) (2:2:0) Su, 1962. Prerequisite: two years Biblical Hebrew. Meservy

The alphabet, vocabulary, and grammar of the language of the Ras Shamra tablets. Valuable for its parallels to Biblical Hebrew.

For other language courses pertinent to scriptural studies, see the offerings of the Language Department of the College of Humanities and Social Sciences. Such courses as classical Greek, classical Latin, the Latin fathers, Arabic, and modern first year Hebrew are available.

Botany

Professor: Harrison (chairman, 232 B).

Associate Professors: Christensen, McKnight, Stutz.

Assistant Professors: Moore*, Murdock, Welsh.

Instructor: Van Cott.

A major in botany is designed to prepare a student for a variety of professional careers in secondary schools or institutions of higher learning, in governmental service, in industry, or in research institutions. Botanists are employed in positions such as teacher, conservationist, range manager, geneticist, plant breeder, plant physiologist, mycologist, plant quarantine inspector, taxonomist, museum curator, park ranger, park naturalist, and in forestry research. Students also find a major in botany to be a useful adjunct to other professional careers. Many people find this to be a field of great interest for cultural and aesthetic values and for recreational and avocational pursuits.

Administration of the range management and pre-forestry programs is under the direction of the Department of Botany.

Students majoring in botany (except those planning to qualify for biology teaching or range management) should take the following courses:

Botany 101, 110, 201, 321, 331, 335, 376, 390, 440, 450, 490.

Majors are required also to gain some field experience in botany. This requirement may be satisfied by taking Botany 455, by attendance at an approved summer biological station or field camp, or by appropriate summer field work.

Recommended supporting courses:

Zoology 105, 164, 212 or 230, 213; Bacteriology 321 and 322 or 331; Agronomy 141, 303; Geology 101; Mathematics 101, 111; Chemistry 111, 112, 113, 221; Physics 201, 202.

Students majoring in botany and planning to teach biology in secondary schools should take the following courses:

Botany 101, 110, 201, 205, 321, 331, 376, 390 or 490, 440, 450; Bacteriology 321 and 322 or 331; Zoology 105, 164, 230, 343 or 345, 372, and 3 hours of electives in zoology.

Recommended supporting courses:

Agronomy 141; Geology 101; Mathematics 101, 111; Chemistry 105 and 106, or 111 and 112; Botany 335, 455, 460.

Students minoring in botany and planning to teach in the secondary schools should take the following courses:

Botany 101, 105, 110, 201, and six hours selected from 205, 321, 376, 440, 450, 460.

Pre-Forestry

Students may prepare themselves for training in forestry by taking the pre-forestry curriculum during their first two years of college work. This pre-forestry program is under the supervision of the Botany Department.

During the freshman and sophomore years, students are registered for the basic science courses and the general education courses required for training in

forestry. Upon completion of this pre-forestry program students may enroll in a professional forestry school for their major work in forestry.

Range Management and Range Conservation

Students planning to qualify for positions in range management should take the courses listed below.

Agronomy 141; Animal Husbandry 207; Botany 101, 110, 440, 450, 462. Three of the following courses: Agricultural Economics 350; Agronomy 455; Botany 455, 465, 466, 561, 615, 655, 750. Two of the following courses: Agricultural Economics 410; Animal Husbandry 340, 335. Two of the following courses: Agronomy 303, 440; Botany 752; Zoology 105, 164, 230, 551.

Recommended supporting courses:

Agricultural Economics 101; Botany 161, 469; Chemistry 111, 112; Geography 401; Geology 101, 102; Mathematics 111; Statistics 221.

Students majoring in botany who plan to qualify for range management positions should fill the requirements outlined above in addition to taking Botany 105, 376, 390, 455, and 490. Botany majors must have a minimum of 28 credit hours in botany.

Lower Division Courses

- 101 (101). Plant Biology.** (3:2:3) F.S. (G-BS) Staff
Prerequisite to further work in the plant sciences. Recommended for the non-science student. Structure, physiology, and reproduction of the higher plants and their relationship to other organisms, including man.
- 105 (112). Plant Kingdom.** (3:2:3) F.S. (G-BS) McKnight
Survey of the plant kingdom, including the morphology of representative species.
- 110 (123). Plant Classification.** (3:2:3) S. Home Study also. Harrison
General principles of taxonomy and use of manuals with emphasis on classification of local flora.
- 161 (New). General Forestry.** (3:3:0) F. Staff
General principles of forestry and forest conservation. The relation of forests to human affairs.
- 176 (145). Heredity.** (3:3:0) F.S. Home Study also. (G-BS) Prerequisite: Botany 101 or Zoology 105. Stutz
The principles of genetics and their applications to other sciences and to human welfare.
- 201 (New). Microscopes and Their Uses.** (1:0:3) F. Stutz
Various types of microscopes and their effective uses.
- 205 (230). Field Botany.** (2:1:3) F.S. (G-BS) Staff
Names and characteristics of common trees and shrubs and their uses as ornamentals and in commerce.

Upper Division Courses

- 321 (351). Plant Anatomy.** (2:1:3) S. Prerequisite: Botany 101 or Zoology 105. Christensen
- 331 (531, 543, 546). Morphology of Green Plants.** (5:3:6) S. Prerequisites: Botany 101 or Zoology 105, and Botany 201 or consent of instructor. McKnight
The basic structures, relationships, and life histories of representatives of the major plant groups, excluding the fungi.
- 335 (535). Mycology.** (3:1:6) F. Prerequisites: Botany 101 or Zoology 105, and Botany 201 or consent of instructor. Staff
The structures, relationships, and life histories of representative fungi.

- 376 (345). Genetics.** (3:3:0) F. (G-BS) Prerequisite: Botany 101 or Zoology 105. Stutz
The principles of genetics.
- 377 (New). Secondary Teaching Procedures in Biology.** (3:3:1) F. Prerequisite: Instruction 301. Welsh
For course description see Instruction 377.
- 378 (346). Genetics Lab.** (1:0:3) F. Prerequisite: completion of or concurrent registration in Botany 376 or equivalent. Stutz
Laboratory and field exercises in genetics.
- 390 (390, 391). Seminar—Junior.** (1:1:0) F. Staff
Required of all majors in their junior year. Presentation and discussion of topics from the current literature of the field.
- 396 (393). Seminar in Plant Ecology and Range Management.** (1:1:0) S. Staff
- 440 (410). Plant Physiology.** (4:3:3) S. Prerequisites: Botany 101 and Chemistry 111. Harrison
Water relations, mineral nutrition, synthesis of foods, digestion, and growth in plants.
- 450 (430). Plant Ecology.** (3:2:3) F. (Field trips to be arranged) (G-BS) Prerequisite: Botany 101 or Zoology 105. Christensen
Relation of plants to their environment, their adaptations to factors of soil and climate, and their influences on each other.
- 455 (445, 446). Field Ecology.** (1-3:1:3-9) S.Su. (Includes one field trip of about one week's duration.) Prerequisite: consent of instructor. Murdock
- 460 (451). Conservation of Natural Resources.** (2:2:0) S. (G-BS) Home Study also. Christensen, Murdock
Need for, and means of providing conservation of renewable natural resources.
- 462 (462). Range Management.** (3:2:3) S. Prerequisite: Botany 450. Staff
Problems associated with the management, grazing, revegetation, and maintenance of range lands.
- 465 (455). Range Forage.** (2:0:6) F. Prerequisite: Botany 110. Christensen
Characteristics, distribution, and value of the more important forage plants of the western range.
- 466 (465). Range Revegetation and Improvement.** (3:2:3) F. Prerequisite: Botany 450. Christensen
Artificial and natural revegetation and the use and development of fencing, watering, and other range facilities.
- 469 (New). Forest Management.** (3:3:0) F. (Field trips to be arranged) Staff
Multiple use management of forest resources.
- 479 (New). Secondary Student Teaching.** (4-8:0:20-40) S. Prerequisite: Botany 377. Welsh
For course description see Instruction 479.
- 480 (470). Plant Pathology.** (3:2:3) F. Prerequisite: Botany 101 or Zoology 105. Stutz
Important diseases of cultivated plants, their identification, causes, and methods of control.
- 490 (490, 491). Seminar—Senior.** (1:1:0) F. Staff
Required of all majors in their senior year.
Presentation and discussion of topics from current literature of the field.
- 493 (393). Seminar in Range Management.** (1:1:0) F. (Does not take the place of 390) Staff
Presentation and discussion of topics from current literature of the field.

- 496 (396). **Special Problems in Range Management.** (1-3:0:3-9) F.S. Staff
 498 (495, 496). **Special Problems.** (1-3:0:3-9) F.S. Staff

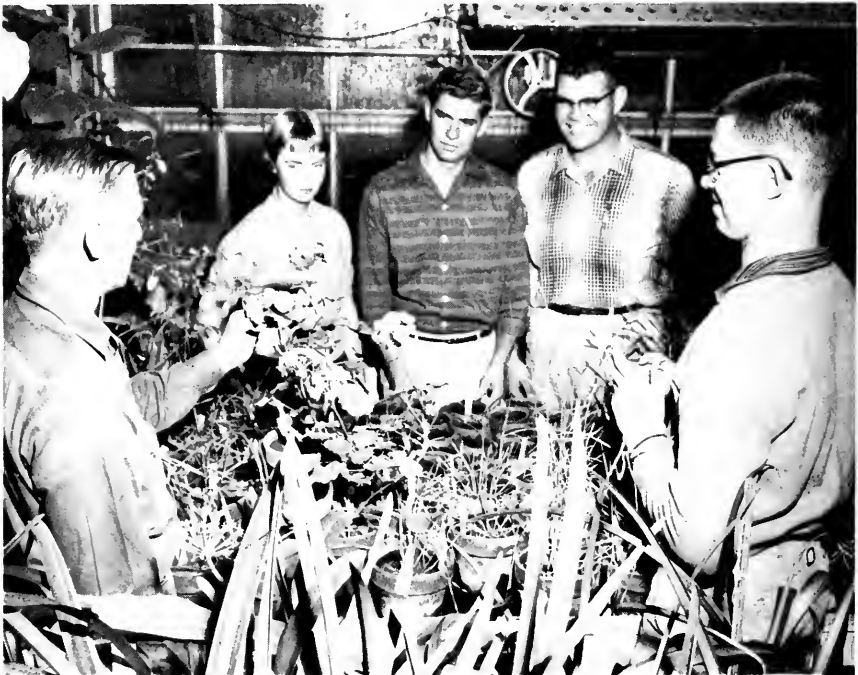
Advanced Undergraduate or Graduate Courses

- 501 (175). **Histological Technique.** (2:0:6) F. Prerequisites: Botany 101 or Zoology 105, and Botany 201. Moore
 Techniques of preparing plant tissues for microscopic examination.
- 510 (604). **Advanced Taxonomy.** (3:1:6) S.Su. Prerequisites: Botany 110 and 176 or consent of instructor. Welsh
- 525 (355). **General Cytology.** (3:2:3) F. Prerequisite: Botany 101 or Zoology 105. Moore
 The organization and functions of protoplasm.
- 550 (New). **Plant Geography.** (3:2:3) F. (Offered alternate years) Christensen
 Plant distribution and the origin of plant communities in the light of present and recent geological conditions.
- 561 (571). **Watershed Management.** (2:2:0) S. (Field trips to be arranged) Murdock
 Influence of vegetation on water supplies, floods, soil erosion, and runoff. Methods in managing and rehabilitating damaged watersheds.
- 591 (590, 591). **Seminar.** (1:1:0) F. Staff
- 598 (496). **Special Problems.** (1-3:0:3-9) F.S. Staff

Graduate Courses

- 615 (615). **Agrostology: Taxonomy and Ecology of Grasses.** (2:1:5) F. Prerequisite: Botany 110; recommended prerequisite: Botany 176. Harrison
- 630 (New). **Angiosperm Morphology.** (4:3:3) F. (Offered alternate years) Moore
 Prerequisite: Botany 105 or 331.
 A detailed study of the flowering plants, emphasizing modifications of flower, fruit, and seed.
- 634 (New). **Morphogenesis.** (3:2:3) F. Prerequisite: training in the following areas is recommended: taxonomy, anatomy, and physiology or biochemistry. Moore
 The problem of development of form in organisms, with emphasis upon plants.
- 635 (665, 668). **Advanced Mycology.** (4:2:6) S. Prerequisites: Botany 101 or Zoology 105, and Botany 335. McKnight
 Consideration of current topics in physiology, morphology, and taxonomy of fungi.
- 638 (683). **Fleshy Fungi.** (2:1:3) Su. Prerequisite: a laboratory course in bacteriology, botany, or zoology. McKnight
 The names, characteristics, and distribution of the edible and poisonous mushrooms, pore fungi, and puffballs of Utah.
- 639 (New). **Paleobotany.** (3:2:3) S. Prerequisite: Botany 101 or Zoology 105. Staff
- 641 (New). **Physiology of Fungi and Algae.** (4:3:3) F. (Offered alternate years) Staff
 Prerequisites: Botany 335, 440.
- 655 (742). **Field Ecology.** (1-3:Arr.:Arr.) S.Su. (Extended field trip) Pre-Murdock
 prerequisite: consent of instructor.
- 676 (625). **Cytogenetics.** (3:3:0) F. Prerequisite: Botany 525. Stutz

- 678 (650). Speciation. (3:3:0) S. Prerequisite: genetics or consent of instructor. Staff
Stutz
- 697, 698 (690, 691, 692). Special Problems. (1-3:0:3-9) F.S. Staff
- 699 (699). Thesis for Master's Degree. (1-4:0:3-12) F.S. Staff
- 740 (706). Advanced Plant Physiology. (3:2:3) S. Prerequisites: Botany 440, 450. Harrison
Current topics of interest such as photosynthesis, respiration, flowering responses, and regulation and control of growth.
- 741 (New). Advanced Plant Physiology II. (3-4:2-3:3) F. Prerequisites: Botany 440, 741. Harrison
- 742 (712). Plant Nutrition and Growth. (3:2:3) F. Prerequisites: Botany 440, Chemistry 111, 112; recommended prerequisite: organic chemistry. Harrison
- 750 (733). Grassland and Desert Ecology. (3:3:0) S. Prerequisite: consent of instructor. Christensen, Murdock
- 752 (735). Forest Ecology. (3:3:0) F. Prerequisite: consent of instructor. Christensen, Murdock
- 760 (754). Conservation of Natural Resources. (1-3:1-3:0-3) F. Prerequisite: consent of instructor. Christensen, Murdock
- 776 (New). Population Genetics. (3:3:0) S. Prerequisite: Botany 176 or Botany 376. Stutz
- 797 (New). Research for Doctoral Degree. (2-4:0:6-12) F.S. Staff
- 799 (New). Doctoral Dissertation. (Arr.) F.S. Staff



Business Education and Office Management

Professor: Christensen.

Associate Professors: Crandall, Croft, Peterson.

Assistant Professors: Bell (chairman, 351 JK), Polson, Taylor.

Instructors: Ashby, DeMille, Guymon, Herde, Waters.

The Business Education and Office Administration Department provides, within the framework of the College of Business goals, the preparation needed by young men and women for responsible positions in business and professional business teaching. The four-year programs described below include basic preparation in general education and the college "core" of business fundamentals.

Communication and Office Administration

The ability to communicate effectively, to supervise people, to solve administrative problems, and to perform technical work in the office operation area is emphasized in the communication and office administration program. Office internships are available to a limited number of students who meet specific requirements. Types of persons who may be interested in specialized training in office management are: (1) Those training for work in small offices where the office manager is in charge of all office functions; (2) Those training for work in large offices where supervision and control of certain functions of office management may be a full-time position; and (3) Those who aspire to management internship programs in industry and government.

Executive Assistant Program

Recognizing the need for capable, mature administrative assistants, the executive assistant program provides a broad background in general education, business fundamentals, and secretarial (executive assistant) experience. To work cooperatively and understandingly with the business executive is a basic tenet in the preparation of young women who desire to become executive assistants.

Business Teacher Education

The College of Business cooperates with the College of Education in the preparation of qualified business teachers. Business teacher education is designed to provide the business teaching major, as well as business faculty, participation in the professional preparation of the business teacher. Certification to teach in the public secondary schools, where four-year degrees are required, is granted upon graduation and the successful completion of this program.

Graduate Business Education

A complete program of graduate courses in business education is provided for teachers who desire a master's degree, or for experienced teachers who desire to fulfill state recertification requirements.

Business Technology

(Two-year program)

See the Technical and Semi-Professional Institute section of this catalog.

Communication and Office Administration

I. College of Business Core Requirements:

Accounting 131. Mathematics of Business	2
Accounting 201 or 211. Principles of Accounting	5

Accounting 342. Business Law	3
Business Management 347. Principles of Marketing	3
Business Management 348. Financial Administration or Economics 453. Money and Banking	3
Economics 111, 112. Economic Principles	5
Economics 345. Intermediate Economic Analysis or Economics 274. Economic and Financial History of U.S.	3
Statistics 221. Principles of Statistics and one other course	4

II. Communication and Office Administration Requirements:

Office Management 203. Production Typing	2
Office Management 204. Advanced Production Techniques in Typing	2
Office Management 206. Calculating Machines	2
Office Management 220. Business Communications	3
Office Management 305: Office Organization and Management	3
Office Management 320. Report and Business Writing	3
Office Management 370. Records Control and Office Machines	3
Office Management 480. Case Studies in Office Management	2
Office Management 485, 486. Lectures in Office Administration	1, 1
Business Management 480. Executive Lectures	1

Six additional hours to be selected from the following in consultation with the supervisor.

Office Management 325. Organization and Dictation of Business Correspondence	2
Office Management 570*. Cooperative Business Experience Internship	4
Office Management 590. Seminar	2
Accounting 255. Basic Concepts of Data Processing	2
Accounting 555. Advanced Data Processing	3
Business Management 420. Human Relations in Administration	3
Business Management 481. Executive Lectures	1

*Approval of department chairman required.

Executive Assistant Program

I. College of Business Core Requirements:

(See listing under Communication and Office Administration.)

II. Executive Assistant Program Requirements:

Office Management 203. Production Typing	2
Office Management 204. Advanced Production Techniques in Typing	2
Office Management 206. Calculating Machines	2
Office Management 220. Business Communication	3
Office Management 305. Principles and Methods for Analyzing Office Operations	3
Office Management 320. Report and Business Writing	3
Office Management 312. Transcription and Speedbuilding	4
Office Management 313. Expert Shorthand	4
Office Management 370. Records Control and Office Machines	3
Office Management 475. Procedures for Executive Assistants	3 to 5
Office Management 485 or 486. Lectures in Office Administration	1
Business Management 480 or 481. Executive Lectures	1
Office Management 570*. Business Internship	4

*Approval of the department chairman required.

Business Teacher Education

I. Professional Education Requirements:

Business Education 377. Secondary Teaching Procedures	3
Business Education 479. Student Teaching	8
Other professional education courses	12

(See "Preparation of Secondary School Teachers" under the College of Education section for other required professional courses leading to secondary certification.)

II. Business Teacher Education Requirements:

B.E.O.M. 203.	Production Typing	2
B.E.O.M. 204.	Advanced Production Techniques in Typing	2
B.E.O.M. 206.	Calculating Machines	2
B.E.O.M. 220.	Business Communication	3
B.E.O.M. 300.	Fundamentals of Business Education	2
B.E.O.M. 312.	Transcription and Speedbuilding	4
B.E.O.M. 311.	Advanced Shorthand or	
B.E.O.M. 313.	Expert Shorthand	4
B.E.O.M. 305.	Principles and Methods for Analyzing Office Operations or	
B.E.O.M. 320.	Report and Business Writing	3
B.E.O.M. 370.	Records Control and Office Machines	3
B.E.O.M. 475.	Procedures for Executive Assistants	3
B.E.O.M. 485 or 486.	Lectures in Office Administration	1

(Note: In order to qualify for a teaching major, students in the business teacher program must also complete Accounting 101 or 201, 202; and Economics 101.)

Lower Division Courses

- 101 (101). Fundamentals of Typewriting.** (2:3:2) F.S.Su. Staff
Mastery of the keyboard and development of basic skills. Students with high school credit in typewriting are not permitted to take this course for college credit.
- 111 (111). Elementary Shorthand.** (4:5:0) F.S. Staff
The fundamentals of shorthand with emphasis on developing fluency in reading and writing shorthand. Students with previous courses in Gregg shorthand are not permitted to take this course for college credit.
- 112 (112, 113). Intermediate Shorthand.** (4:5:1) F.S.Su. Staff
Development of shorthand writing and control beginning with 60 words per minute, with the objective of developing a rate of 80 to 100 words per minute for 3 minutes on unfamiliar material.
- 203 (102, 103). Speedbuilding in Production Typewriting.** (2:3:2) F.S.Su. Staff
Intensive drills with emphasis on measurement of speed and control in the production of manuscripts, outlines, minutes, tabulations, letter writing, rough drafts, and legal instruments.
- 204 (103, 104). Advanced Production Techniques in Typewriting.** (2:3:2) F.S. Staff
Su. Application of advanced production techniques to practical business problems including statistical reports, office projects, editing, and composition.
- 206 (106). Calculating and Posting Machines.** (2:3:2) F.S.Su. Staff
Instruction and practice in the operation of adding machines, key driven calculators, rotary calculators, printing calculators, and posting machines for solving practical business problems.
- 220 (220). Business Communication.** (3:3:0) F.S.Su. Staff
Study in current means of communication; experience in the composition of business correspondence.

The following course also counts in business education and office management:

Accounting 255 (316). Basic Concepts of Data Processing. (2:2:1)

Upper Division Courses

- 300 (468). Fundamentals of Business Education. (2:2:0) Staff**
Designed to give an understanding of the fundamentals of business education.
- 305 (305). Principles and Methods for Analyzing Office Operations. (3:5:0) Staff**
F.S.
Introduction to problems of office management, tools, and methods of problem solution. Areas of concentration include office standards and quality control, job analysis and work simplification, time studies and automation in office operations.
- 311 (113, 214). Advanced Shorthand. (4:5:1) F.S.Su. Staff**
Places emphasis on rapidly transcribing mailable letters. Upon entering this course students should be able to take dictation at 80 words per minute and typewrite at 50 words per minute.
- 312 (311, 312). Transcription and Speedbuilding. (4:5:1) F.S. Staff**
Places emphasis on accurate and rapid shorthand production. For students who write 100 words per minute and who desire to increase their speed to 120 words per minute.
- 313 (312, 313). Expert Shorthand. (4:5:1) F. Staff**
Expert shorthand speed course for students writing above 120 words per minute in making reports of committee meetings, board of directors' meetings, or conferences. Includes specialized vocabulary, testimony dictation, and Congressional Record material.
- 320 (320). Report and Business Writing. (3:3:0) F.S. Staff**
Intensive experience in communicating business analyses and results of fact-finding procedures.
- 325 (325). Organization and Dictation of Business Correspondence. (2:2:0) S. Staff**
Practical experience in giving dictation of office correspondence and reports. Includes elements of thought processes and organization in preparing to give dictation. Machine dictation equipment is used.
- 370 (470). Records Control and Office Machines. (3:3:3) F.S. Staff**
Deals with fundamentals of filing, machine transcription, duplicating machines, other office equipment, supplies, and procedures.
- 418 (418). Secretarial Review. (2:3:0) S. Staff**
Intensive concentrated skills course for last-semester seniors and others desiring to pass Civil Service, F.B.I., merit, and other examinations immediately preceding employment.
- 475 (475). Procedures for Executive Assistants. (3-5:3-5:3-5) F.S. Prerequisite: B.E.O.M. 204, 220, 312, 320, and 370.**
- 480 (480). Case Studies in Office Management. (2:2:1) F.S. Staff**
Extensive use of cases in office management. Student analysis, group discussions, and written reports form the principal basis for conduct of the course.
- 485, 486 (485, 486). Lectures on Office Administration. (1:1:0 ea.) F.S. Staff**
Course 485 is given odd-numbered years; 486 even-numbered years.
These courses also count in business education and office management:
- Bus. Mgt. 420 (420). Human Relations in Admin. I. (3:3:0)**
Bus. Mgt. 480, 481 (480, 481). Executive Lectures. (1:1:0)

Advanced Undergraduate and Graduate Courses

- 670 (670). Cooperative Business Experience Internship. (4:4:4) F.S.Su. Staff**
Through cooperation of business and industry, this work-education pro-

gram is open to the following qualifying majors: office management, executive assistant, and business teacher.

590 (690). Seminar. (2:2:0) F.S.Su.

Staff

The following course also counts in business education and office management:

Accounting 555 (555). Advanced Data Processing. (2:2:1)

Graduate Courses

630 (630). Current Developments Influencing the Content of Business Education. (2:2:0) F. Staff

A presentation of recent technological developments, such as automation in business, and an analysis of the content and procedures of business education.

635 (635). Recent Changes in the Materials and Methods of Business Education. (2:2:0) S. Staff

Investigation of recent developments in materials and methods in the teaching of business subjects in the secondary school and junior college. Open to those who have had teaching experience.

640 (640). Trends of Thought in Business Education. (2:2:0) S. Staff

Fundamental ideas that have shaped the business curriculum in the United States and basic issues that have affected purposes, trends, and control of business education in public and private institutions.

665 (665). Practicum in Business Education. (2:2:0) F.Su. Staff

Planning and development of practical and creative projects in the field of business education, individually or in groups. Experienced teachers are permitted to use actual school problems and projects as the nucleus for the term's work.

675, 676 (675). Business Education Workshop. (2:2:0 ea.) Su. Staff

A series of clinics in selected business subjects.

694 (New). Independent Readings. (1-4:1-4:0) F.S.Su. Staff

698 (New). Field Project for Master's Degree. (1-4:1-4:0) F.S.Su. Staff

699 (New). Thesis for Master's Degree. (1-4:Arr.:Arr.) F.S.Su. Staff



Business Management

Professors: Boyle (emeritus), Clark, Oaks, Taylor.

Associate Professor: Pratt (chairman, 395 JK).

Assistant Professors: Covey, Faux, McKay, Wilson.

Instructor: Daines.

The primary objective of this department is to prepare students for professional careers in business management. The courses of study and methods of instruction are designed to develop personal qualities in each student which will enable him to realize his full potentialities as an effective administrator. Stress is placed upon the development of such qualities as the art of decision making, facility in the use of analytical tools and techniques, and the ability to communicate effectively.

Students planning to major in this department should complete, in the time sequence indicated, the following general education, college, and departmental core requirements. After completing these general education and core requirements a student can elect any one of the different concentrations presented in detail below.

For details concerning the program of graduate study leading to the Master of Business Administration degree, students should consult the graduate catalog.

GENERAL EDUCATION

(Freshman through Senior Years)

See the Student Academic Services section of this catalog for courses needed to satisfy the General Education requirements of the University. A detailed discussion of courses which can be taken in each required area is listed therein.

COLLEGE AND DEPARTMENTAL CORE

Freshman and Sophomore Years	Hours
Accounting 131, 132. Elementary Mathematics of Business	4
(or Mathematics 111. College Algebra and Trigonometry 5)	
Accounting 211. Elementary Accounting	5
Economics 111, 112. Economic Principles and Problems	5
Statistics 221. Principles of Statistics	2
Junior Year	
Accounting 342. Business Law	3
Economics 345. Intermediate Economic Theory	3
Statistics (One of the following three courses)	2
432. Industrial Statistics	
532. Advanced Business Statistics	
534. Sampling	
Business Management 303. Managerial Control	3
Business Management 585. Industrial Analysis	3
Business Management 579. Problems in Marketing	3
Business Management 552. Advanced Corporation Finance	3
Business Management 480 or 481. Executive Lectures	1
Business Management 488, 489. Problems in Business Management	3
Senior Year	
Accounting 556. Electronic Computer Programming	3
Business Management 420. Human Relations in Administration I	3
Business Management 577. Modern Corporate Problems	2
Business Management 589. Business Policy	3

BUSINESS ADMINISTRATION CONCENTRATION

The business administration course is designed to integrate the various areas included in the department curriculum and consequently to give exceptional students a broad background in management training at the undergraduate level. Particular emphasis is placed upon the use of the case method.

Students who desire to adopt this concentration should apply in writing to the chairman of the department. Upon acceptance, they will be assigned a counselor who will work with them to outline the courses which they will be required to complete. Acceptance is based upon the student's scholarship, previous experience, and objectives in applying for a special course of training.

FINANCE AND BANKING CONCENTRATION

The course work offered in this area is designed, first, to familiarize business students with the elements of financial planning and, second, to provide specialized work for those who seek positions of management and executive responsibility in financial institutions or the financial departments of business firms. The requirements are flexible enough to allow some specialization directed toward commercial banking, investment banking, business finance, insurance, real estate, investment management, or financial counseling.

Students electing to concentrate in this area of the Department of Business Management are required to take the three courses listed under Group A and any two of the courses listed under Group B.

Group A		Hours
Business Management 450.	General Insurance	3
Business Management 451.	Investments	3
Business Management 571.	Management of Financial Institutions	3
Group B		
Economics 453.	Money and Banking	3
Economics 454.	Real Estate	3
Business Management 565.	Life Insurance	2
Business Management 567.	Real Estate Administration	2
Business Management 574.	Investment Management	3

MARKETING CONCENTRATION

The marketing course is designed to prepare students for positions of management and executive responsibility in the fields of industrial marketing, retailing, wholesaling, advertising, sales management, and market research. Requirements for a concentration in this area include both courses in Group A, one of the two courses in Group B, and one of the three courses in Group C.

Group A		Hours
Business Management 455.	Advertising	3
Business Management 458.	Market Research	3
Group B		
Business Management 456.	Retailing	3
Business Management 457.	Wholesaling and Industrial Marketing	3
Group C		
Business Management 555.	Problems in Advertising	3
Business Management 556.	Problems in Retail Store Management	3
Business Management 557.	Problems in Sales Management	3

INDUSTRIAL MANAGEMENT CONCENTRATION

The industrial management concentration provides training for positions in industrial engineering, production control, purchasing, industrial relations, and the operating departments of industrial enterprises. In addition, it facilitates entry into executive trainee programs, the active management of small business, or the continuation of training in a graduate school of business.

Students electing a concentration in industrial management are required to complete the following program in addition to the college and departmental core:

Freshman, Sophomore, and Junior Years

	Hours
Math 111. *College Algebra and Trigonometry	5
Math 112. Analytical Geometry and Calculus	5
Math 213. Calculus	5
Physics 211**. General Physics (G-PS)	4
Chemistry 105. College Chemistry (G-PS)	4
Drawing 110. Blueprint Reading	2

Senior Year

Bus. Mgt. 561. Problems in Production	5
Bus. Mgt. 562. Problems in Production	5
Statistics 432***. Industrial Statistics	2

The following schedule is recommended:

Freshman Year

	F	S
Economics 111, 112	3	2
Math 111	5	5
English 111, 112	3	3
Health 130	2	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Religion	2	2
History 170		3
Group electives	5	2
Total Hours	15 $\frac{1}{2}$	17 $\frac{1}{2}$

Sophomore Year

	F	S
Math 112, 213	5	5
Statistics 221	2	
Accounting 211		5
Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Religion	2	2
Group electives	8	2
Other electives		3
Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$

Junior Year

	F	S
Physics 211	4	
Chemistry 105		4
Drawing 110	2	
Economics 345	3	
Accounting 342		3
Bus. Mgt. 303	3	
Bus. Mgt. 585		3
Bus. Mgt. 579	3	
Bus. Mgt. 552		3
Bus. Mgt. 488, 489	1	2
Religion	2	2
Total Hours	18	17

Senior Year

	F	S
Bus. Mgt. 420	3	
Bus. Mgt. 480		1
Bus. Mgt. 561, 562	5	5
Bus. Mgt. 589		3
Bus. Mgt. 577	2	
Accounting 556		3
Statistics 432	2	
Religion	2	2
Electives	3	3
Total Hours	17	17

*Mathematics 111 should be taken in place of Accounting 131 and 132.

**Students are encouraged to take Physics 212, General Physics Laboratory, with Physics 211.

***To be taken as part of the departmental core in statistics.

INDUSTRIAL RELATIONS AND PERSONNEL MANAGEMENT CONCENTRATION

The personnel management concentration is designed to prepare students for positions in the personnel and employee relations areas for marketing, financial, and manufacturing institutions in business.

Students electing a concentration in this area are required to take the basic courses in Group A and a minimum of two courses from Group B. These are the minimum requirements for preparation in this field. Students interested in further study are encouraged to consider taking the additional courses in Groups B and C.

Group A	Hours
Business Management 521. Human Relations in Administration II	3
Business Management 569. Personnel Management	3
Economics 461. Labor Economics and Labor Relations	3
Group B	
Psychology 330. Industrial Psychology	2
Psychology 336. Personnel Psychology: Theory and Practice	4
Soc-Psychology 257. Group Relations and Leadership	2
Sociology 350. Introduction to Social Psychology	3
Sociology 446. Sociology of Industrial Relations	3
Group C	
Economics 462. Labor and Public Policy	3
Journalism 561. Public Relations	2
Sociology 505. Sociological Principles	3
Soc-Psychology 552. Personality: Culture and Society	3
Soc-Psychology 555. Group Dynamics	2

Lower Division Course

- 205 (205). Personal Finance.** (2:2:0) F.S. Staff
A practical course in money management with particular reference to utilization of savings.

Upper Division Courses

- 303 (203). Managerial Control.** (3:3:0) F.S. Prerequisites: Accounting 211 and Statistics 221 or consent of instructor. Staff
Emphasizes the understanding and use of accounting and other quantitative data for decision-making purposes.
- 315 (315). Principles of Salesmanship.** (2:2:0) F.S. Home Study also. Staff
A critical review of techniques, with emphasis upon the opportunities available in professional salesmanship.
- 340 (340). Industrial Organization and Management.** (3:3:0) F.S. Prerequisites: Accounting 211 and Statistics 221 or consent of instructor. Staff
Introduction to the producing function of business. Plant location and layout, machinery and equipment utilization, employee-employer relations, and industrial control.
- 347 (347). Principles of Marketing.** (3:3:0) F.S. Staff
Analytical survey of institutions, functions, problems, and policies in the distribution of goods from producer to consumer. Includes treatment of pricing and governmental regulation.
- 348 (348). Financial Administration.** (3:3:0) F.S. Prerequisites: Accounting 211 and Statistics 221 or consent of instructor. Staff
Introduction to principles governing financial administration of business enterprises.
- 367 (367). Industrial Purchasing.** (2:2:0) S. Staff
Analysis of techniques involved in procurement of materials, equipment, and supplies. Attention also given to purchasing associations, legal aspects of purchasing, and traffic as related to purchasing.
- 420 (420). Human Relations in Administration I.** (3:3:0) F.S. Prerequisite: senior standing or consent of instructor. Staff
Case problems involving communication processes, face to face relation-

ships, and the securing of cooperation are discussed to develop a way of understanding self and others.

- 450 (450). General Insurance.** (3:3:0) F. Staff
Life, health, accident, fire, property, and liability insurance and principles of risk-bearing as they apply to each classification of the insurance field.
- 451 (451). Investments.** (3:3:0) F.S. Prerequisite: Business Management 348 or 552, or equivalent. Staff
Analysis of operating and financial characteristics of industrial, public utility, railroad, financial, and real estate enterprises, and various federal, state, and municipal bodies.
- 455 (455). Advertising.** (3:3:0) F.S. Prerequisite: Business Management 347 or 579 or equivalent. Staff
Analysis of preparation, program, planning, media, budgeting, and research. Utilization by business emphasized, but attention also given to advertising institutions and to economic and social aspects.
- 456 (456). Retailing.** (3:3:0) F.S. Prerequisite: Business Management 347 or 579 or equivalent. Staff
A survey of retail store operation from point of view of executive control, profit planning, merchandising, store location, layout, organization, policies, system, and coordination of store activities.
- 457 (457). Wholesaling and Industrial Marketing.** (3:3:0) F. Prerequisite: Business Management 347 or 579 or equivalent. Staff
A study of principles, practices, and policies of business concerns engaged in movement of goods from manufacturer to retailer and from manufacturer to industrial user.
- 458 (458). Marketing Research.** (3:3:0) F.S. Prerequisite: Business Management 347 or 579 or equivalent. Staff
Uses, methods, and techniques of marketing research.
- 480, 481 (480, 481). Executive Lectures.** (1:2:0) S. Staff
Top executives from throughout the nation visit the campus and meet students in a series of lectures dealing with subjects significant to executive leadership.
- 488 (588). Problems in Business Management I.** (1:1:0) F. Prerequisites: Accounting 211, Statistics 221, Economics 112, or permission of instructor. Staff
An integrating case course involving all of the functional areas with particular emphasis upon analysis and decision making.
- 489 (588). Problems in Business Management II.** (2:2:0) S. Prerequisite: Business Management 483 or permission of instructor. Staff
A continuation of 488.

These courses also count in business management:

B.E.O.M. 320. Business Writing and Reporting. (2:2:0)

Statistics 432. Industrial and Engineering Statistics. (2:2:0)

Advanced Undergraduate or Graduate Courses

- 521 (521). Human Relations in Administration II.** (3:3:0) S. Prerequisite: Business Management 420 or consent of instructor. Staff
An illuminating conceptual framework for understanding group processes is developed to identify factors contributing to understanding, growth, and cooperation in group work and leadership.
- 552 (552). Advanced Corporation Finance.** (3:3:0) F.S. Prerequisite: Accounting 211 and Statistics 221 or consent of instructor. Staff
Financial problems connected with organization of corporations, under-

writing, and sale of securities; management, expansion, and organization of those that are not successful.

- 555 (555). Problems in Advertising.** (3:3:0) S. Prerequisite: Business Management 455 or consent of instructor. Staff
Problems in the use of advertising as part of management's overall marketing strategy. Stresses planning, coordination, control, and evaluation of effectiveness.
- 556 (556). Problems in Retail Store Management.** (3:3:0) S. Prerequisite: Business Management 456 or consent of instructor. Staff
Problems involved in policy formulation and implementation and in the coordination of store activities through the use of controls and standards.
- 557 (557). Problems in Sales Management.** (3:3:0) F.S. Prerequisite: Business Management 579 or consent of instructor. Staff
Problems in sales methods, sales organization, management of sales force (selection, training, compensation, and supervision), and sales planning and control.
- 558, 559 (558, 559). Advanced Problems in Marketing Research.** (1-3:Arr.: Arr. ea.) F.S. Prerequisites: Business Management 458 and consent of instructor. Staff
Advanced methods of research and their application to marketing problems.
- 561 (560, 561). Problems in Production—Manufacturing Processes.** (5:4:2) F. Prerequisites: Business Management 585, Drawing 102, and senior or graduate standing in the department. Other by approval of instructor. Wilson
Part one of a one-year course dealing with problems encountered by production personnel. Considers: (1) the materials and manufacturing processes commonly used in industry; (2) process analysis as applied to work simplification and plant layout. Utilizes business cases, films, and field trips.
- 562 (561, 562). Problems in Production—Manpower Management and Production Control.** (5:6:0) S. Prerequisite: Business Management 561. Wilson
Part two of a one-year series. Deals with time study, job evaluation, wage administration, manpower planning, and production control.
- 565 (565). Life Insurance.** (2:2:0) S. Prerequisite: Business Management 450 or consent of instructor. Staff
Advanced study of the nature and functions of life insurance and its application to personal and business needs.
- 566 (566). Property and Casualty Insurance.** (2:2:0) S. Prerequisite: Business Management 450 or consent of instructor. Staff
Advanced study of the functions of fire and marine insurance, casualty insurance, and corporate building.
- 567 (567). Real Estate Administration.** (2:2:0) S. Prerequisite: Economics 454 or consent of instructor. Staff
Mechanisms of real estate finance, principles of mortgage risk analysis, role of government agencies, and problems of property development.
- 569 (569). Personnel Management.** (3:3:0) S. Prerequisites: Economics 345 and Business Management 420, or permission of instructor. Staff
Management of the personnel function: job evaluation, organization planning, employee selection, training, compensation, morale, labor relations, and management development. Method case analysis and research projects.
- 571 (571). Management of Financial Institutions.** (3:3:0) S. Staff
Study of asset management of various types of financial institutions with special emphasis on loan policies and related problems.
- 573 (573). Management of Production Facilities.** (2:2:0) S. Prerequisite: Business Management 561. Wilson
The economics of equipment utilization and replacement, capital budgeting, maintenance control, tools, control, systems, and procedure analysis.

- 574 (574). Investment Management.** (3:3:0) S. Prerequisite: Business Management 451. Staff
Theory of investment management and its application in formulation of investment policies for different types of investors.
- 575 (575). Advanced Production Methods.** (2:2:0) S. Prerequisite: Business Management 561. Wilson
Advanced methods work, automation, and the application of data processing to industrial operations.
- 576 (576). Industrial Planning and Forecasting.** (2:2:0) S. Prerequisite: Business Management 488. Staff
Top management policy determination in the areas of production planning, planning of physical facilities, and organization planning as they are related to market and economic forecasts.
- 577 (577). Modern Corporate Problems.** (2:2:0) F.S. Prerequisite: senior standing in the Department of Business Management or consent of the instructor. Staff
Problems arising from separation of ownership and control, changing theory of profits and property, changing methods of financing expansion and other current problems.
- 579 (579). Problems in Marketing.** (3:3:0) F.S. Prerequisites: Accounting 211 and Statistics 221 or consent of instructor. Staff
Analysis of problems in marketing management with particular emphasis upon integrating the various functional areas.
- 585 (585). Industry Analysis.** (3:3:0) F.S. Prerequisites: Accounting 211 and Statistics 221 or consent of instructor. Staff
Production characteristics of major industries. Large business units are studied in terms of sources of raw materials, production techniques, financial structure, degree of integration, stage of maturity, character of mechanization, government regulation, and possible future developments.
- 589 (589). Business Policy.** (3:3:0) F.S. Prerequisites: Business Management 489 and senior standing in the Department of Business Management. Staff
Cases involving determination of long range objectives in the business firm and the development of sound and consistent policies for achieving these objectives.
- 591 (591). Research and Diagnosis of Business Problems.** (1-2:Arr.:Arr.) S. Prerequisite: completion of or concurrent registration in Business Management 589. Staff
Provides experience in the research and diagnosis phase of case method. Includes preparation of cases from actual business situations.

These courses also count in business management:

Accounting 556. Electronic Computer Programming. (3:3:1)

Journalism 561. Public Relations. (3:3:0)

Statistics 532. Advanced Business Statistics. (2:2:0)

Graduate Courses for the Master of Business Administration Program

- 601 (New). Administration I and II.** (6:3:0) F.S. Prerequisite: admission to the MBA program. Staff
- 605 (New). Administration III.** (3:3:0) F. Prerequisite: Business Management 601. Staff
- 607 (New). Administration IV.** (3:3:0) S. Prerequisite: Business Management 605. Staff
- 611 (New). Operations I and II.** (12:6:0) F.S. Prerequisite: admission to the MBA program. Staff

- 615 (New). Operations III.** (3:3:0) F. Prerequisite: Business Management 611. Staff
- 617 (New). Operations IV.** (3:3:0) S. Prerequisite: Business Management 615. Staff
- 621 (New). Quantitative Analysis I and II.** (12:6:0) F.S. Prerequisite: admission to the MBA program. Staff
- 625 (New). Quantitative Analysis III.** (3:3:0) F. Prerequisite: Business Management 621. Staff
- 627 (New). Quantitative Analysis IV.** (3:3:0) S. Prerequisite: Business Management 625. Staff
- 631 (New). Environment I and II.** (6:3:0) F.S. Prerequisite: admission to the MBA program. Staff
- 635 (New). Environment III.** (3:3:0) F. Prerequisite: Business Management 631. Staff
- 637 (New). Environment IV.** (3:3:0) S. Prerequisite: Business Management 635. Staff
- 641 (New). Communication and Research I and II.** (4:Arr.:Arr.) F.S. Prerequisite: admission to the MBA program. Staff
- 645 (New). Communication and Research III.** (3:Arr.:Arr.) F. Prerequisite: Business Management 641. Staff
- 647 (New). Communication and Research IV.** (3:Arr.:Arr.) S. Prerequisite: Business Management 645. Staff
- 699 (699). Thesis for Master of Science or Arts Degree.** (1-4:Arr.:Arr.) F.S. Staff



Chemical Engineering Science

Associate Professors: Barker (chairman, 176 ELB), Pope.

Assistant Professors: Christensen, Smoot.

Chemical engineering is essentially the application of chemical reactions on an industrial scale. Chemical engineers engage in research, development, design, application, and sales in the chemical industries which include such diverse fields as chemicals, petroleum, atomic energy, textiles, rubber, metals, and foods. Students majoring in chemical engineering science may anticipate receiving, in addition to a comprehensive training in engineering, a thorough education in the fundamental physical sciences including physics, mathematics, and chemistry. This training will enable the student upon graduation to enter any of the numerous academic or industrial fields which are open to persons having this broad educational background.

Entrance Requirements

For both the general entrance requirements of the University and the particular requirements specified for the College of Physical and Engineering Sciences, see those sections of this catalog. Attention is called especially to the advisability of the student having completed three units of English and three units of high school mathematics, which should include trigonometry and intermediate algebra, in order to complete the prescribed curricula without loss of time. Students of superior ability and training, as indicated by entrance examination results and high school preparation, in especially mathematics, chemistry, and English, may complete the prescribed program in approximately four years.

Grade Requirements

A student must have received an average grade of "C" or better in physics and calculus before being admitted as a regular third-year student in the department. A student who has not obtained this average may petition for special consideration. If he is admitted, it will be on a probationary basis subject to periodic review. If his work subsequently proves unsatisfactory, he will not be allowed to continue in this department.

A cumulative average grade of "C" or better must be maintained in all advanced mathematics, chemistry, and engineering subjects; otherwise the student is placed on a probationary status in the department. No more than six hours of "D" credit in the major department will be counted toward graduation. An overall grade point of at least "C" is required for graduation.

Requirements for Major and Options

In order to obtain a degree in chemical engineering, the student must complete the program described below. A student can obtain a B.S. degree in chemistry at the end of the fourth year. This the student can accomplish by suitably rearranging the program specified below to fulfill the General Education requirements earlier, by completing the additional requirements in chemistry as listed in the section covering that department (beginning with quantitative analysis in the second year), and by declaring himself a chemistry major during the last semester of his fourth year. A tentative program showing the necessary course rearrangement is available from this department. Such a student will either have to attend summer school for one term in addition to the regular course work or spend more than five years to complete the prescribed program in chemical engineering.

Students who intend to enter the chemical industry in the fields of management or sales will be allowed by permission to substitute business and economics courses for some of the engineering and science courses indicated.

The following abbreviations are used: Ch.E. for chemical engineering, C.E. for civil engineering, E.E. for electrical engineering, and M.E. for mechanical engineering.

General Education Group Requirements

Engineering science students are subject to all of the General Education requirements listed in this catalog, with the following exceptions:

- (1) They may take the required course in health any time during the first or second year.
- (2) When necessary, the biological science requirement may be reduced to four semester hours instead of the six semester hours specified. All of these may be obtained in a single course if desired.
- (3) Maximum advantage should be taken of the three hours of religion credit given for attending devotional assemblies for a period of three years.

Engineering students may register for 18 hours, exclusive of physical education and forum, in any one semester without obtaining special permission.

Normal Sequence of Courses for Majors

First Year					
	F	S			
Religion	2	2	Ch.E. 371, 372	2	2
Chemistry 111, 112	4	3	Math. 315, 316	3	3
English 111, 112	3	3	C.E. 301, 302	3	3
Math. 111, 112	5	5	Ch.E. 378		3
C.E. 101, 102	2	2	Total Hours	16-17	17-18
Health 130		2			
M.E.	1		Fourth Year		
Physical education	$\frac{1}{2}$	$\frac{1}{2}$		F	S
Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$	Religion		2
Second Year			Chemistry 461, 462	4	4
	F	S	Ch.E. 471, 472	3	3
Religion	2	2	Ch.E. 473, 474	3	3
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Ch.E. 475 Lab		2
Chemistry 113, 321	3	4	C.E. 303	3	
Physics 211, 213	5	5	Group electives	5	3
Math. 213, 214	5	5	Total Hours	18	17
C.E. 203	2		Fifth Year		
Ch.E. 271, 272	1	1		F	S
Total Hours	18 $\frac{1}{2}$	17 $\frac{1}{2}$	Ch.E. 571	3	
Third Year			Ch.E. 476 Lab	2	
	F	S	Ch.E. 574		3
Religion	4	2	Ch.E. 578	3	
Chemistry 351, 352	4-5	4-5	Ch.E. 579		3
			Ch.E. 599	2	1
			E.E. 301, 302	4	4
			Group electives	3	4
			Total Hours	17	15

Lower Division Course

271, 272 (271, 272, 273). Chemical Process Principles. (1:1:0) F.S. Staff
 The unit processes of the inorganic and organic chemical industries; economic and technological aspects.

Upper Division Courses

- 371, 372 (371, 372, 373). Chemical Engineering Fundamentals.** (2:2:0 ea.) F.S. Prerequisites: Chemistry 113 and Physics 213. Smoot
Material, energy, and economic balances in chemical engineering.
- 378 (378, 379). Engineering Materials.** (3:3:0) F.S. Prerequisite: Chemistry 106 or 113. Barker, Christensen
A study of the principles which underlie the behavior and govern the properties of materials as related to their engineering applications.
- 471, 472 (471, 473). Transport Processes.** (3:3:0) F.S. Prerequisites: Chemical Engineering 372, Math 315, and concurrent registration in Chemical Engineering 473 and Chemistry 461. Smoot
The theories of momentum, heat, and mass transfer and the analogies among these transfer mechanisms.
- 473, 474 (472). Chemical Engineering Thermodynamics.** (3:3:0) F.S. Prerequisites: Chemical Engineering 372, Math 315, and concurrent registration in Chemical Engineering 471 and Chemistry 461. Christensen
The first and second laws of thermodynamics and their applications to behavior of real fluids, potential functions, and phase and chemical equilibria.
- 475, 476 (575, 576, 577). Chemical Engineering Laboratory.** (2:0:4 ea.) F.S. Prerequisites: Chemical Engineering 471, 473. Staff
A laboratory study of chemical engineering unit operations and processes.

Advanced Undergraduate or Graduate Courses

- 571 (571, 572, 573). Chemical Engineering Unit Operations.** (3:3:0) F. Prerequisite: Chemical Engineering 471. Barker
A study of unit operations involving mass transfer and simultaneous heat mass and momentum transfer.
- 574 (573, 574). Chemical Engineering Plant Design and Economics.** (3:3:0) S. Prerequisite: Chemical Engineering 571. Pope
Design of chemical engineering machinery, plants, and/or processes requiring the application of unit operations theory, chemical process principles, and economic analysis.
- 578 (579). Chemical Engineering Kinetics.** (3:3:0) F. Prerequisites: Chemical Engineering 474, Chemistry 462. Christensen
Chemical kinetics and the application of these principles to the design of chemical process equipment.
- 579 (578). Process Dynamics and Unit Processes.** (3:2:3) S. Prerequisite: Chemical Engineering 571. Barker
Measurement and control of process variables.
- 598 (598). Special Problems.** (Arr.) F.S.Su. Staff
Registration by permission.
- 599 (599). Chemical Engineering Undergraduate Thesis.** (1-2:Arr.:Arr.) F.S. Staff
Su. Registration by permission. Minimum of three and maximum of four semester hours required—1-2 hours per semester.

Chemistry

Professors: Swensen (chairman, 225 ESC), Anderson, Blackham, Broadbent, Bryner, Goates, Hall, Nicholes, Vernon.

Associate Professors: Butler, Gubler, Izatt, Nelson, Peterson.

Assistant Professors: Cluff, Hawkins, Ott, Snow, Wing.

Supt. of Laboratories and Stores: Meibos.

The department offers four beginning programs in chemistry. The first three are terminal programs: Chemistry 100 for students interested in chemistry for a liberal arts education only; Chemistry 101 and 102 for students in nursing, home economics, and related fields; Chemistry 105 and 106 for engineering students (except chemical engineering students); and Chemistry 111, 112, 113 for chemistry and chemical engineering majors and all others desiring a strong foundation for subsequent extensive study of chemistry such as may be required in physics, biological sciences, medicine, dentistry, and the teaching of science.

A major in chemistry shall consist of a minimum of 42 hours credit, including credit in each of the following courses: Chemistry 111, 112, 113, 321, 322, 351, 352, 354 (2 hours), 355 (2 hours), 461, 462, 464, 465, 591. The remainder of the credit may be obtained by taking any other upper division chemistry courses. It is recommended, however, that the additional courses be taken from the following list: Chemistry 404, 504, 514, 551, 580, 581, 582, 584, 585, 592. One year of college credit (or its equivalent) in French, German, or Russian is required. The student who desires to be certified upon graduation by the American Chemical Society should consult his adviser for details. No more than five hours of "D" credit in chemistry will be counted in meeting the requirements for any of the majors in chemistry. Credit in Chemistry 100, 101, 102, 221, and 284, all designed as service courses for students in other areas, will not apply toward a major in chemistry.

A major in pre-medical or pre-dental chemistry shall consist of a minimum of 30 hours credit in the following courses: Chemistry 111, 112, 113, 321, 351, 352, 354, 355, 461, 462, 464, and 465. These majors are open only to bona fide pre-medical and pre-dental students.

A chemistry teaching major shall consist of a minimum of 32 hours credit in courses selected from the following list: Chemistry 111, 112, 113, 321, 322, 351, 353, 354, 355, 461, 462, 504, 514, 581, 584, and 591. A chemistry teaching major is open only to those who meet the requirements for teacher accreditation by the State of Utah.

Students minoring in chemistry are required to complete Chemistry 113 and at least six additional hours selected from Chemistry 221 and/or upper division courses in chemistry.

Chemistry and chemical engineering majors accepted in the University Honors Program will begin their study by registration in any section of Chemistry 111. Upon its completion, and with the recommendation of the department honors committee, they may register for Chemistry 118, followed by Chemistry 328. These courses are equivalent in content to, and taken in lieu of, Chemistry 112, 113, 321, and 322. Selections may also be made by the committee from students taking Chemistry 113 and permission given them to register for Chemistry 328.

For special requirements of the College of Physical and Engineering Sciences, see that section of this catalog. Attention is called especially to the preparation required in mathematics and to the possibility of substituting air science credit for general education credit.

For details concerning the program for graduate study leading to the M.S.

and Ph.D. degrees in chemistry, students should consult the Graduate School Catalog.

Suggested Curriculum for a Chemistry Major

Freshman Year			Sophomore Year		
	F	S		F	S
Chemistry 111, 112	4	3	Chemistry 113, 321	3	4
Math. 111, 112	5	5	Math. 213, 214	5	5
English 111, 112	3	3	Physics 211, 213	5	5
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Religion	2	2
Health 130		2	Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Religion	2	2	General education and		
General education and			electives	2	2
electives	3	2			
Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$

Junior Year			Senior Year		
	F	S		F	S
Chemistry 322	4		Chemistry 461, 464	4	
Chemistry 351, 354	5		Chemistry 462, 465		4
Chemistry 352, 355		5	Chemistry 504		2
Math. 315, 316	3	3	Chemistry 514		3
German 101, 102	4	4	Chemistry 591	1	
Religion		3	German 385, 386	3	3
General education and			Religion	2	3
electives	2	3	Electives	7	3
Total Hours	18	18	Total Hours	17	18

Lower Division Courses

- 100 (100). Elementary College Chemistry.** (2:2:0) F.S.Su. (G-PS) **Staff**
 For students seeking only a liberal arts education in chemistry. Those who have had high school chemistry should register in Chemistry 101, 105, or 111.
- 101 (101, 104). Introductory Inorganic Chemistry.** (5-4:5:4-2) F.S. (G-PS) **Staff**
 For students in home economics, nursing, and related fields. Students who have not had high school chemistry must register for two laboratory periods per week. Three lecture, two quiz, and one or two two-hour laboratory periods per week.
- 102 (102, 103). Introductory Organic Chemistry.** (5-4:5:4-2) S. (G-PS) **Pre-requisite: Chemistry 101. Staff**
 A course in organic and biochemistry for students in home economics, nursing, and related fields. Three lecture, two quiz, and one or two two-hour laboratory periods per week.
- 105, 106 (105, 106, 107). General College Chemistry.** (4:4:2 ea.) 105, F.S.; 106, F.S.Su. (G-PS†) **Prerequisite: Mathematics 111 or its equivalent or concurrent registration. High school chemistry or physics is recommended. On the basis of the results of placement tests, students may be required to complete Chemistry 100 prior to registration in this course. Staff**
 A terminal course in chemistry designed for engineering and other technical areas. Three lecture periods, one quiz period, and one two-hour laboratory period per week.
- 111 (111). Principles of Chemistry.** (4:5:0) F.S.Su. (G-PS) **Prerequisite: Mathematics 111 or its equivalent or concurrent registration. High school chemis-**

try or physics is recommended. On the basis of the results of placement tests, students may be required to complete Chemistry 100 prior to registration in this course.

A non-terminal course in fundamental principles for those who plan to continue their study of chemistry beyond the freshman year. Four lecture periods and one quiz period each week.

- 112 (112). Principles of Chemistry.** (3:3:3) F.S.Su. (G-PS†) Prerequisite: Chemistry 111. Staff
Two lecture periods, one quiz period, and one three-hour laboratory period each week.
- 113 (113). Principles of Chemistry and Qualitative Inorganic Analysis.** (3:2:6) F.S. Prerequisite: Chemistry 112. Staff
One lecture period, one quiz period, and two three-hour laboratory periods each week.
- 118 (112, 113). Inorganic Chemistry and Qualitative Inorganic Analysis (Honors Section).** (5:3:6) S. Prerequisites: Chemistry 111 and consent of departmental honors committee. Izatt
Designed for honors students. Gives a penetrating coverage of the material in Chemistry 112 and 113.
- 220 (220). Elements of Quantitative Analysis.** (3:2:3) F. Prerequisite: Chemistry 101 or 106 or 112. Ott, Wing
Quantitative analysis adapted to the needs of students in medical technology and of others interested in biological and food materials. (This course will not satisfy pre-medical or pre-dental requirements.)
- 221 (221). Quantitative Analysis.** (3:2:3) F.S.Su. Prerequisite: Chemistry 113. Butler, Wing
For agricultural and biological science majors.
- 228 (228). Fire Assaying.** (2:1:3) F. Prerequisite: Chemistry 113. Wing
- 284 (284). Physiological Chemistry.** (4:3:3) S. Prerequisite: Chemistry 102 or 106. Bryner, Gubler, Swensen, Vernon

Upper Division Courses

- 301 (300). Fundamentals of Chemistry for General Science Teachers.** (2:2:0) Su. Staff
Restricted to experienced teachers of general science or similar subjects.
- 321, 322 (321, 322). Analytical Chemistry.** (4:2:6 ea.) F.S. Prerequisites: Chemistry 113 and Mathematics 112. Butler, Wing
For physical science and engineering majors. Includes a formal introduction to the location and use of chemical literature.
- 328 (321, 322). Analytical Chemistry (Honors Section).** (5:3:6) Prerequisites: Chemistry 118 and consent of department honors committee. Butler
Equivalent to Chemistry 321 and 322.
- 351, 352 (351, 352, 353). Organic Chemistry.** (3:3:0 ea.) F.S.Su. Prerequisite: Chemistry 113 and concurrent registration in Chemistry 354 and 355 respectively. (By special permission of the instructor prior to registration, Chemistry 352 may be taken without concurrent registration in Chemistry 355). Blackham, Broadbent, Hawkins, Nelson
For science and engineering majors. Includes the use of the literature of organic chemistry and some qualitative organic analysis.
- 354, 355 (354, 355, 356). Organic Chemistry Laboratory.** (1-2:0:3-6 ea.) F.S. Su. Prerequisite: concurrent registration in Chemistry 351 and 352 respectively. Blackham, Broadbent, Hawkins, Nelson
- 404 (400). Methods of Glass Manipulation.** (1:0:3) F.S. Prerequisite: permission of instructor. Bryner

- 461, 462 (461, 462, 463). **Physical Chemistry.** (3:3:0 ea.) F.S. Prerequisites: Chemistry 321; Physics 213 and Mathematics 214; concurrent registration in Chemistry 464 and 465, respectively. Anderson, Bryner, Snow
- 464, 465 (461, 462). **Physical Chemistry Laboratory.** (1:0:3) F.S. Prerequisite: completion of or concurrent registration in Chemistry 461, 462, respectively. Anderson, Bryner, Snow

Advanced Undergraduate and Graduate Courses

- 500 (508). ***History of Chemistry.** (2:2:0) S. (Offered 1962-63) Nicholes
- 503 (503). **Research Laboratory Techniques.** (1:0:3) F. Staff
- 504 (504). **Instrumental Analysis.** (2:1:3) F.S. Prerequisite: Chemistry 461, 464. Butler, Goates, Ott
- 514 (414, 611). **Inorganic Chemistry.** (3:3:0) S. Prerequisite: Chemistry 221 or 321 and Chemistry 351. Cluff, Izatt, Peterson
- 518 (618). ***Inorganic Syntheses.** (2:0:6) (Offered 1961-62) Cluff, Izatt, Peterson
- 524 (524). ***Quantitative Microanalysis.** (2:1:3) S. (Offered 1962-63) Wing
- 551 (551). **Qualitative Organic Analysis.** (2:3:1:3-6) F. Blackham, Broadbent, Hawkins, Nelson
Systematic identification of organic compounds singly and in mixtures.
- 580 (580). **Metabolic Processes.** (2:2:0) S. Prerequisites: Chemistry 352 and 461. Gubler, Swensen, Vernon
For non-biochemistry majors only. Provides an insight into the important area of biochemistry for those who will not otherwise contact it.
- 581, 582 (581, 582, 583). **Biochemistry.** (3:3:0 ea.) F.S. Prerequisites: Chemistry 321 or 221, and 352 and 355. Gubler, Swensen, Vernon
- 584, 585 (581, 582). **Biochemistry Laboratory.** (2:0:6 ea.) F.S. Prerequisites: completion of or concurrent registration in Chemistry 581, 582, respectively. Gubler, Swensen, Vernon
- 591, 592 (591, 592, 593). **Chemical Literature and Technical Writing.** (1:1:0 ea.) F.S. Broadbent, Nelson
- 598 (597). **Special Problems.** (Arr.) Registration by permission. Staff

Graduate Courses

- 601 (601). **Geometry of Atoms and Molecules.** (3:3:0) F. Blackham, Broadbent, Hawkins, Nelson
- 612 (612). ***Chemistry of the Non-Metals.** (2:2:0) F. (Offered 1962-63) Cluff, Izatt
- 613 (613). ***Chemistry of the Metals.** (2:2:0) F. (Offered 1962-63) Cluff, Izatt
- 621 (621). **Advanced Analytical Chemistry.** (2:2:0) S. Butler
- 652 (652). **Advanced Organic Chemistry.** (3:3:0) S. Blackham, Broadbent, Hawkins, Nelson
- 658 (658). **Organic Syntheses.** (3:1:6) F. Blackham, Broadbent, Hawkins, Nelson
- 661 (661). **Chemical Thermodynamics.** (3:3:0) F. Goates, Snow
- 662 (662). **Chemical Thermodynamics.** (2:2:0) S. Goates, Snow

- 663 (663). Reaction Kinetics. (2:2:0) S. Goates, Snow
- 681, 682 (682). *Biochemistry of Amino Acids and Proteins. (3:3:0 ea.) F.S. (Offered 1962-63) Gubler, Swensen, Vernon
- 688 (688). Biochemical Preparations. (2:0:6) F.S. Gubler, Swensen, Vernon
- 697 (697). Master's Candidate Research. (Arr.) Arr. Staff
- 699 (699). Thesis for Master's Degree. (Arr.) Arr. Staff
- 711 (711). *Coordination Compounds. (2:2:0) F. (Offered 1962-63) Izatt
- 719 (719). Selected Topics in Inorganic Chemistry. (1-3:1-3:0) Arr. Staff
- 725 (725, 726). *Electro-analytical Chemistry. (3:3:0) F. (Offered 1962-63) Butler
- 729 (729). Selected Topics in Analytical Chemistry. (1-3:1-3:0) Arr. Staff
- 751 (751). Mechanisms of Organic Reactions. (3:3:0) F. Blackham, Broadbent, Hawkins, Nelson
- 757 (757). *Chemistry of Natural Products. (2:2:0) S. (Offered 1962-63) Broadbent, Vernon
- 758 (758). *Heterocyclic Compounds. (2:2:0) S. (Offered 1962-63) Broadbent
- 759 (759). Selected Topics in Organic Chemistry. (1-3:1-3:0) Arr. Staff
- 761, 762 (761, 762, 763). *Statistical Mechanics. (3:3:0 ea.) F.S. (Offered 1962-63) Snow
- 764 (764). *Nuclear and Radiochemistry. (3:2:2) S. (Offered 1962-63) Anderson
- 765, 766 (765, 766, 767). *Quantum Chemistry. (3:3:0 ea.) F.S. (Offered 1962-63) Snow
- 769 (769). Selected Topics in Physical Chemistry. (1-3:1-3:0) Arr. Staff
- 781 (781). *Enzyme Chemistry. (2-3:2:0-3) F. (Offered 1962-63) Swensen, Vernon
- 782 (782). *Biological Oxidation. (2:2:0) S. (Offered 1962-63) Vernon
- 797 (797). Doctoral Candidate Research. (Arr.) Arr. Staff
- 799 (799). Dissertation for the Ph.D. Degree. (Arr.) Arr. Staff

*Offered alternate years only.

Civil Engineering Science

Professors: Rollins (chairman, 198 ELB), Firmage, Fuhriman, Hodson.

Associate Professor: Barton.

Assistant Professor: Calder.

Instructors: Coombs, Tippetts, Wilkes, Wilson.

Students entering the department are required to follow specified courses which have been planned to provide a broad education in all basic aspects of civil engineering. Students are able to obtain qualifications in such closely related fields as applied mechanics, architectural engineering, etc.

Entrance Requirements

These include both the general entrance requirements of the University and the particular requirements specified for the College of Physical and Engineering Science. Students are urged to include trigonometry and intermediate algebra in high school courses. Where evidence of superior student training in English and up to calculus in mathematics is available and is confirmed by entrance examination, some credit may be rebated in the first year program listed below.

Grade Requirements

A student must have received an average grade of "C" or better in calculus and physics before being admitted as a regular third-year student in the department. A student who has not obtained this average may petition for special consideration. If he is admitted, it will be on a probationary basis subject to periodic review. If his work subsequently proves unsatisfactory, he will be dropped from the department.

No more than 6 hours of "D" credit in the major department will be counted toward graduation.

To graduate from this department, a student must have maintained an average grade of "C" or better in all of his course work.

Graduation Requirements

The degree of Bachelor of Engineering Science may be obtained by completing the program specified below. Major and minor academic requirements are automatically satisfied by completion of the course specified.

Students who are majoring in, and who complete the course in engineering science together with requirements for an air science commission are not subject to the physical education requirements outlined in the section of this catalog titled "Student Academic Services." Particular information relative to recommended courses to be included in the General Education requirements or possible options emphasizing various professional aspects may be had by direct application to the department chairman.

The following abbreviations are used: Ch.E. for chemical engineering; C.E. for civil engineering; E.E. for electrical engineering; G.E. for geological engineering; M.E. for mechanical engineering; and G.E.R. for General Education requirements.

General Education Group Requirements

Engineering science students are subject to all of the General Education requirements listed in this catalog. The required course in health may be taken

any time during the first or second year. When necessary, the biological science requirement may be reduced to five semester-hours instead of the six semester-hours specified. For civil engineering students certain courses are required in bacteriology (see normal program).

Engineering students may register for 18 hours, exclusive of physical education and forum, in any one semester without obtaining special permission.

Normal Program for Majors

First Year					
	F	S			
Ch.E. 105, 106*	4	4	Math 315	3	4
Math 111, 112*	5	5	Geology 111	2	2
English 111, 112	3	3	Religion	3	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Bact. 121**	3	3
C.E. 101, 102	2	2	General education**	3	
Health		2			
M.E. 100	1		Total Hours	17	18
Religion	2	2			
Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$			
Second Year			Fourth Year		
	F	S		F	S
Math 213, 214	5	5	C.E. 422	2	
Physics 211, 213	4	4	C.E. 423, 424	3	3
Physics 212, 214	1	1	C.E. 431, 432	3	3
C.E. 211, 212	3	3	Bact. 381**		2
C.E. 203, 301	2	3	C.E. 413		2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Ch.E. 378, C.E. 401	3	2
Religion	2	2	Religion	2	2
Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$	C.E. 441	3	
			General education**	2	4
			Total Hours	18	18
Third Year			Fifth Year		
	F	S		F	S
C.E. 303, 302	3	3	C.E. 403	3	
C.E. 321		2	C.E. 525	3	
M.E. 320, 411	3	4	C.E. 551, 561	3	3
			C.E. 542		3
			C.E. 571		3
			E.E. 301, 302	4	4
			Approved electives	3	2
			Total Hours	16	15

*Students with insufficient mathematics and science background from high school must register for Math 101 and Chemistry 100 First Semester. This will require an additional summer term of study to supplement the above curriculum.

**Civil engineers must take five credit hours of bacteriology. In Group IV, Economics 101 and Sociology 111 are recommended.

Lower Division Courses

- 101 (201). Engineering Graphics.** (2:1:4) F.S. Staff
Materials and instruments in engineering drawing; introductory practice in orthographic projection; transfer of pictorial sketches and machine part samples to scaled drawing; reproduction processes; and drawing principles.
- 102 (102). Engineering Graphics.** (2:1:4) F.S. Prerequisites: Math 111, C.E. 101 or equivalent. Staff
Graphics principles, including descriptive geometry, projections, perspective applications, and developments.

- 203 (203). Engineering Graphics.** (2:1:4) F.S. Prerequisites: C.E. 102, Math 112, or consent of instructor. Staff
Graphical mathematics, empirical equations, nomography, graphical calculus, graphic statics.
- 211 (320). Elementary Surveying.** (3:2:3) F. Prerequisites: Math 111, C.E. 102 or consent of instructor. Staff
Lectures and field work in measurements of distances, angles, and differences of elevation using the usual survey methods and instruments; preparation of notes; adjustments; simple triangulation and traverses; and use of the plane table.
- 212 (321). Engineering Surveying.** (2:1:3) S. Prerequisite: C.E. 211. Calder
More advanced concepts in survey theory, including curve and earthwork survey and astronomical observations. Emphasis is placed on engineering uses of survey techniques.

Upper Division Courses

- 301 (301). Engineering Mechanics—Statics.** (3:2:3) F.S. Prerequisites: college physics, C.E. 203, and Math 213. Staff
Introductory concepts of mechanics, force systems and problems of equilibrium applied to structures, centers of gravity and centroids, elementary hydrostatics, friction in engineering problems, beam problems, and virtual work.
- 302 (302). Engineering Mechanics—Dynamics.** (3:2:3) F.S. Home Study also. Prerequisite: C.E. 301. Staff
Definitions and principles of kinematics and kinetics; engineering applications in terms of force, mass acceleration, work and energy, impulse and momentum, periodic motion.
- 303 (303). Engineering Mechanics—Mechanics of Materials.** (3:2:3) F.S. Home Study also. Prerequisite: C.E. 301. Staff
Fundamental concepts in terms of elastic stress and strain relations; cylinders and spheres under pressure; problems of torsional load; beam theory including bending stresses, complex stress, calculation of deflection and continuity aspects, two-dimensional elastic theory.
- 304 (304). Engineering Mechanics—Dynamics.** (3:2:3) F.S. Prerequisites: C.E. 301, Math 315. Staff
Basic concepts of dynamics applied to particles, systems of particles, rigid bodies vibration systems, non-rigid particles systems and an introduction to selective topics in advanced methods in dynamics. Vector notations used in the treatment of all topics.
- 321 (402). Elementary Structural Theory.** (2:2:0) S. Prerequisite: C.E. 303. Firmage
Theory of statically determinate structures; force systems; analysis of trusses and frames; influence diagrams; loads on structures, approximate methods of analysis of indeterminate structures.
- 401 (401). Properties of Materials.** (2:1:3) F.S. Prerequisite: C.E. 303 or consent of instructor. Barton, Staff
Theories and procedure of physical testing of materials, introduction to failure theories and solid state concept of behavior of materials; the mechanics of deformation.
- 403 (410). Concrete Technology.** (3:2:3) F. Prerequisites: Geology 111, C.E. 424. Hodson, Wilson
Manufacture and testing of cements; technology of concrete materials and concrete mix design; techniques of concrete handling, placing, and treatment, laboratory work.
- 413 (New). Photogrammetry.** (2:1:3) F. Prerequisite: C.E. 212. Staff
Theory and application of the use of terrestrial and aerial photographs

to produce maps; vertical and oblique photography and mapping procedures; stereoscopic viewing and measurements for relative position of objects in three dimensions, photo interpretation, sources of error.

- 422 (New). Statically Indeterminate Structures.** (2:2:0) F. Prerequisite: C.E. 321. Firmage
Stability and determinateness of structures; deflections, moment-area and conjugate beam, moment-distribution.
- 423 (403). Structural Design.** (3:2:3) F. Prerequisite: C.E. 321. Firmage, Hodson
Design of structural elements in metal—beams, columns, tension member, plate girders—and riveted, welded, and belted joints.
- 424 (404). Reinforced Concrete Design.** (3:2:3) S. Prerequisites: C.E. 321, 422. Firmage, Hodson
Theory and design of reinforced concrete structures from both the elastic and plastic approach. Introduction to prestressed concrete.
- 431 (432). Hydrology.** (3:2:3) F. Prerequisite: M.E. 411. Fuhrman
A study of water as it occurs in nature; relationships between precipitation, evaporation, infiltration, transpiration, groundwater, and stream runoff.
- 432 (429). Hydraulic Design.** (3:2:3) S. Prerequisites: M.E. 411, C.E. 423 and 431. Fuhrman
Theory and design of water control and water conveyance structures such as dams, pipe-lines, open channels, and hydraulic transitions.
- 441 (420). Elementary Soil Mechanics.** (4:3:3) F. Prerequisites: Geology 111 and Physics 212. Rollins
Basic physico-chemical characteristics of soils. The soil water system. Permeability seepage and associate uplift pressures. Consolidation theory, strength theory and the shearing strengths of sand and clay. Earth pressure theories, slope stability analysis and applied aspects.
- 525 (501). Advanced Structures.** (3:2:3) F. Prerequisite: C.E. 424. Firmage, Hodson
Theory and design of statically indeterminate structures, redundant frames, strain energy methods, Castigliano's theorems, slope-deflection equations and relaxation methods, associated drawing office work.
- 542 (520). Foundation Engineering.** (3:2:3) S. Prerequisite: C.E. 420. Rollins
Subsurface exploration, bearing capacity concepts, settlement of structures and basic principles of foundation design.
- 551 (430). Sanitary Engineering.** (3:2:3) F. Prerequisites: C.E. 432, Bact. 381. Fuhrman
Review of public health engineering. Applications to design, construction, and operation of water supply and sewerage systems.
- 561 (521). Highway Engineering.** (3:2:3) S. Prerequisite: C.E. 542. Rollins
Traffic studies, geometric design grade separations, and interchanges. Properties subgrades, base courses, bituminous materials, and surface pavements. Theory and practice in flexible pavement design. Design of concrete pavements, techniques of road construction.
- 571 (540). Engineering Ethics, Economics, and Legal Problems.** (3:3:0) Arr. Staff
Professional, legal, and economic problems of the engineering profession, including contracts, specification writing, and ethics. Case histories are studied as they effect the engineering profession.

Advanced Undergraduate or Graduate Courses

- 501 (New). Advanced Mechanics of Materials I.** (3:3:0) Arr. **Staff**
Introduction to theories of elasticity, plasticity, and strain energy methods; stresses and strains in beams, curved members, rotating discs, thick cylinders, torsion and structural members.
- 503 (504). Applied Elasticity.** (3:3:0) Arr. **Staff**
Analysis of stress and strain in two dimensions; equation of equilibrium and compatibility; problems in elasticity; emphasis on applications to machine and structural design.
- 507 (New). Experimental Stress Analysis I.** (3:2:3) Arr. **Staff**
Principles and techniques of the experimental methods of stress determination and their application to static engineering problems; includes mechanical and optical gages, and brittle lacquers; emphasizes electric strain gages, calibration and instrumentation; introduces photoelasticity and photostress techniques.
- 526 (526). Advanced Structural Theory.** (3:2:3) Arr. **Staff**
Continued analytical methods in structural mechanics, iterative processes; solutions of complex structural types; arches; secondary stress.
- 531 (New). Advanced Hydraulic Design.** (3:2:3) Arr. Prerequisites: C.E. 424, 431, and 432. **Staff**
Planning and basic design of hydro-electric, flood control, irrigation, and multi-purpose projects involving the utilization of water resources; consideration of hydraulic and hydrologic design elements.
- 543 (New). Physico-Chemical Characteristics of Soils.** (3:3:0) Arr. Prerequisites: Chemistry 106, Physics 212, C.E. 441. **Staff**
Physico-chemical relationships in soils, including the structures of the clay minerals, properties of the electrical double layer, ion exchange phenomena, and soil moisture movement and equilibria.

Graduate Courses

- 601 (New). Advanced Properties of Materials.** (3:3:0) Arr. Prerequisite: C.E. 401 or equivalent. **Staff**
Structure of metals and behavior of materials under various conditions of loading and use; relation of mechanical properties to behavior and their significance; tests and interpretation of test data.
- 603 (New). Theory of Elasticity.** (3:3:0) Arr. Prerequisites: Math 315 and 316 or equivalent. **Staff**
The mathematical theory of elasticity; analysis of stress and strain; generalized Hooke's law; uniqueness theorem, special topics in elasticity.
- 621 (New). Thin Shell Structures.** (3:3:0) Arr. **Staff**
Theory and design methods related to domes, arches, solid plate, and hyper structures.
- 622 (New). Bridge Design.** (3:3:0) Arr. **Staff**
Design of statically indeterminate bridge structures including composite continuous beams and continuous trusses; design of piers and abutments; AASHTO bridge design specifications.
- 623 (New). Pre-Stressed Concrete.** (3:3:0) Arr. **Staff**
Basic theory, prestress and post-stress methods; details of design and fabrication; applications to continuous structures.
- 625 (New). Structural Design of Multi-Story Buildings.** (3:3:0) Arr. **Staff**
Design loadings and specifications, analysis and design of statically indeterminate structural frames of steel and concrete; elastic and plastic approaches to design.

- 632 (New). Advanced Hydrology.** (3:3:0) Arr. Prerequisites: C.E. 431, 432 or equivalent. Staff
Theory application of advanced hydrologic principles to engineering design and investigations.
- 633 (New). Hydraulic Design of Water Control Structures.** (3:3:0) Arr. Staff
Hydraulic and structural design of concrete dams and appurtenants works operational procedures.
- 641 (New). Advanced Soil Mechanics.** (3:3:0) Arr. Prerequisites: C.E. 441, 542 or equivalent. Rollins
Advanced topics in soil mechanics including stress distribution in earth masses, the shearing strength of soils, consolidation theory, settlement analysis, stability of slopes and the bearing capacity of soils.
- 642 (New). Advanced Soil Mechanics Laboratory.** (2:0:6) Arr. Prerequisites: C.E. 441, 542, or equivalent. Staff
Advanced study in the techniques of laboratory investigations of soils.
- 644 (New). Advanced Foundation Engineering.** (3:3:0) Arr. Staff
Applied course in foundation engineering including techniques of sub-surface investigation, determination of the allowable soil pressures for footings, and the design of spread footings, raft foundation and pile foundation for structures on clays, silts, and sand.



Clothing and Textiles

Assistant Professors: Childs (chairman, 3256 SFLC), Jorgensen.

Instructors: Argyle, Domgaard, Finlayson, Liechty.

The Department of Clothing and Textiles is designed to help the student understand clothing as it relates to personal needs and to the needs of family members. Consideration is given to the expression of creative abilities, a knowledge of fabrics (their selection, use, and care), economy, and the comfort and health of the body. The curriculum offers experience in clothing selection, buying, design, and construction; provides instruction in identifying and recognizing quality performance of textiles; and engenders an appreciation for the history of costume and textiles.

Study in the Department of Clothing and Textiles, combined with experience and an appropriate minor, leads to a variety of professional opportunities. Students prepare for careers in such fields as professional buying, textile testing, fashion illustrating, promotional fashion work, dressmaking, demonstrating, phases of garment manufacturing, and dress and fabric designing. Background is also provided for graduate study in college teaching, research, and extension services.

For minors in clothing and textiles, a total of at least 14 credit hours in the department is required. A minimum of one course in at least 3 of the 4 areas listed below is suggested.

Construction: Clothing and Textiles 165, 235, 355.

Textiles: Clothing and Textiles 260, 580, 594.

Design and selection: Clothing and Textiles 110, 300, 345, 350.

History and economics: Clothing and Textiles 330, 430, 472.

Men students who plan to minor in clothing and textiles should consult the department chairman.

For majors in clothing and textiles, a minimum of 22 credit hours in the department is required, including at least 3 hours credit in each of the four areas listed above. A special problem is expected. For graduation from the College of Family Living, these hours must be combined with enough credit to make a total of 35 hours. Included shall be at least 12 hours credit outside the major with a minimum of 3 hours in each of the following departments: Housing and Home Management, Foods and Nutrition, and Human Development and Family Relationships.

Suggested Program for Majors

Freshman Year		Sophomore Year	
	Hours		Hours
Religion*	4	Religion*	4
English**	4-6	Physical education**	1
(hours determined by placement exam)		Physics 100 or 177	3
Physical education		Bacteriology 121*	3
and health**	3	Botany 101*	3
Chemistry 101*, 102*	8	Economics 101*	3
Psychology 111*	3	Foods and	
Family Living 91**	0	Nutrition 110, 210	2-4
Clothing and		Housing and Home Management 220 or 221 or 235	3-4
Textiles 110*, 165*	6	H.D.F.R. 210	3
Elective	2	Clothing and	
		Textiles 235, 260*	3-5
		Elective	2

Junior Year		Senior Year	
	Hours		Hours
Religion*	4	Religion*	4
English (literature)*	3	Humanities*	2
History 170*	3	Clothing and textiles	
Art 306	3	(courses toward major—355,	
Clothing and textiles		430, 472, 580, 594)	7
(courses toward major—300,		Family living (courses	
330, 345, 350)	6	toward 35 hr. total)	3
Electives	11-13	Elective	14-16

Students interested in textile design may complete a major in clothing and textiles with a minor in art. The following courses are recommended: Art 110, 250, 263, 306, 352, 362.

Those interested in costume design may complete a major in clothing and textiles with a minor in art. The following courses are recommended: Art 110, 122, 233, 239, 322, 341, 342, 448.

Students interested in fashion merchandising may complete a major in clothing and textiles with a minor in business management. The following courses are required: Business Management 347, 456, 556. Recommended courses are Business Management 315, 420, 455.

Students who combine a clothing and textiles major with a minor in journalism are encouraged to elect Journalism 101, 111, 211, 330, 331, 351, 471.

Majors in clothing and textiles who desire to teach in secondary schools should complete a double major in homemaking education and clothing and textiles (see requirement for homemaking education). This plan requires at least two additional semesters, or 22 to 25 more credit hours.

Many of the following courses are of value to both men and women. For more information see the College of Family Living section of this catalog.

Lower Division Courses

105 (105). Elementary Clothing Construction. (1:1:2) F.S.

Argyle, Domgaard

Not for majors in clothing and textiles. Service course for students with little or no experience in sewing. Construction of cotton clothing.

110 (110, 370). Selection and Care. (2:2:1) F.S. Argyle, Finlayson, Liechty

Study of design elements and principles are applied to selection of clothing; planning, buying, cost and care of wardrobe; personal analysis of grooming, posture, personality.

124 (124). Clothing for Men. (1:1:1) S.

Childs

Open to all men students. Men's apparel as related to the wearer. Planning, buying, cost, care, and self-improvement factors. Field trips. Guest lecturers.

165 (115, 225). Dress and Pattern Construction. (4:2:8) F.S.

Staff

Techniques and procedures in fitting and constructing a tailored dress and an afternoon or evening dress; analysis and modification of commercial patterns.

235 (335). Children's Clothing. (2:1:3) F.S. Prerequisite: Clothing and Textiles 165.

Domgaard, Jorgensen

Selection, design, and construction of children's clothing as related to the child's developmental needs.

260 (260, 370). Textiles. (3:3:1) F.S.

Childs

Natural and synthetic textile fibers; yarns, fabric construction, dyes, and finishes fundamental in the purchase, use, and care of textile fabrics.

Upper Division Courses

- 300 (New). Clothing the Family.** (2:2:0) F.S. Recommended prerequisite: at least 3 hours credit in psychology, sociology, or economics. Childs
For men and women. Factors involved in the planning, selecting, and purchasing of clothing for the family; consideration of needs, resources, and sociological and psychological effects.
- 330 (330). History of Costume.** (2:2:0) F. Prerequisite: some work in economics, sociology, and history. Jorgensen
Social, economic, and political influences on dress. Analysis of costume as an expression of the life of the people and as a basis for interpreting modern fashions.
- 345 (345). Draping and Flat Pattern Design.** (3:2:4) F. Prerequisites: Clothing and Textiles 110, 165, 260; recommended prerequisite: Clothing and Textiles 330. Liechty
Creative design achieved through techniques of flat pattern and draping on an individualized dress form.
- 350 (340). Costume Design.** (2:2:2) S. Prerequisites: Clothing and Textiles 110, 165, 330, 345. Childs
Opportunities for creative expression in applying principles of art to clothing design; exploring various resources for inspiration.
- 355 (355). Tailoring.** (3:3:3) F.S. Prerequisites: Clothing and Textiles 165, 260; recommended prerequisite: Clothing and Textiles 110. Domgaard, Liechty
Custom tailoring techniques applied to construction of coats and suits.
- 430 (430). Historic Textiles.** (2:2:0) S. Prerequisite: Clothing and Textiles 260; recommended prerequisite: Clothing and Textiles 330. Staff
The history and development of textile fabrics from primitive times to present age.
- 472 (472). Fashion Industry.** (2:2:0) S. Prerequisite: 3 credit hours in clothing and textiles; 6 credit hours in economics, sociology, or history. Jorgensen
Development of the fashion movement—its relation to manufacturing and consumption of clothing. Garment production, fashion designers, fashion cycles, and trade organizations.
- 580 (560, 590). Advanced Textiles.** (3:3:2) S. Prerequisites: Clothing and Textiles 260; Chemistry 101, 102. Childs
Testing physical and chemical properties of fibers and fabrics to determine their use and care. Recent textile developments.
- 594 (594). Special Problems.** (1-2:Arr.:Arr.) F.S. Prerequisites: 15 semester hours in clothing and textiles and permission of instructor. Staff
- 595 (595). Problems in Construction.** (2:Arr.:Arr.) F.S. Prerequisites: 15 semester hours in clothing and textiles and permission of instructor. Staff

Devotional Assemblies

Herald R. Clark in charge (154 JK).

(An interdepartmental area only).

Throughout the history of Brigham Young University the students have been privileged to receive special visits from the General Authorities of the Church and hear messages prepared especially for them. At present, devotional assemblies are held weekly on Wednesday mornings. It is planned that during the academic year the students will have the opportunity to hear outstanding Church leaders including all members of the First Presidency and the Council of the Twelve Apostles.

Credit for attendance at the weekly devotional assembly may be earned at the rate of one-half semester hour per semester, and such credit may be applied toward the requirement for religion in the following manner: A student who does all of his undergraduate work at the B.Y.U. may apply a total of three semester hours of credit toward the religion requirement during his junior and senior years. Transfer students may apply this credit only after they have attended B.Y.U. for two full years.

Lower Division Courses

101, 102. Lectures in Religion.	($\frac{1}{2}$:1:0 ea.) F.S.	Staff and Guest Lecturers
201, 202. Lectures in Religion.	($\frac{1}{2}$:1:0 ea.) F.S.	Staff and Guest Lecturers

Upper Division Courses

301, 302. Lectures in Religion.	($\frac{1}{2}$:1:0 ea.) F.S.	Staff and Guest Lecturers
401, 402. Lectures in Religion.	($\frac{1}{2}$:1:0 ea.) F.S.	Staff and Guest Lecturers



The Department of Dramatic Arts and the Department of Speech

Dramatic Arts

Professor: Hansen, (chairman,
Steadman House), Mitchell.

Associate Professors: Gledhill,
Woodbury*.

Assistant Professors: McKinlay,
Rich, Williams.

Instructors: Faux, Golightly, Hen-
son, Michie, Struthers, Stew-
art, Tarbox.

Speech

Professors: de Jong, Morley.

Associate Professors: Bateman,
Mecham*.

Assistant Professors: Clinger
(chairman, Steadman House),
Jex*, Pardoe, Richardson*,
Weaver.

Instructors: Boren, Smith.

The Department of Dramatic Arts and the Department of Speech are each administratively independent of the other; however, in order to more completely prepare the student for teaching in the schools and to meet the competition in professional theatre, radio, and television, the faculty members and courses from both departments are utilized to achieve these purposes.

The following courses are required of all majors within the Department of Dramatic Arts and the Department of Speech:

Dramatic Arts 121, 241, 640

Speech 101, 371, 491

Those students wishing to qualify as teachers in the high schools will complete the following courses and receive the joint recommendation of the Department of Dramatic Arts and the Department of Speech. The required courses are:

	Hours
Dramatic Arts 121, 123, 126, 241, 319, (320, 321—2 hrs.), 325, 460	18
Speech 101, 111, 305, 371, 401, 491, 527	15
Total Hours	33

Additional courses recommended:

Dramatic Arts 315, 316, 317, 423

Speech 260, 524, 525

Speech 491 is required of all majors and minors in both departments and is taught second semester only. Required courses may be waived only on acceptance of the student's petition by the department waiver committee.

Mask Club is sponsored by both departments to provide practical experience and participation in all of the speech arts. It is held each Monday night from 7:00 to 8:00 p.m. in College Hall.

Requirements for Minor:

The requirements for a general minor in Dramatic Arts and Speech are made up of the following courses:

Dramatic Arts 121, 319, 1 credit hour from either 320 or 321, 325, 460
Speech 102, 491, 525

DEPARTMENT OF DRAMATIC ARTS

The B.A., B.S., M.A., and M.S. degrees are offered by the department. Students may elect to specialize in one of the two areas of Dramatic Arts.

AREAS OF CONCENTRATION

Dramatic Arts	Hours
Basic Courses:	
Dramatic Arts 121, 241, 460	8
Speech 101, 371, 491	7
Requirements for specialization:	
123, 126, 316, 317, 319, (320, 321—2 hrs.), 423	17
Total Hours	<u>32</u>
Additional courses recommended:	
Dramatic Arts 325, 360, 570	
Speech 307, 527	

Sequence of Courses

	F	S
First Year	101 (3)	121 (3)
	126 (1)	123 (3)
Second Year	241 (2)	
Third Year	316 (3)	317 (3)
	319 (2)	320, 321 (2)
Fourth Year	460 (3)	491 (2)
	423 (3)	371 (2)

Radio and Television	Hours
Basic Courses:	
Dramatic Arts 121, 241, 460	8
Speech 101, 371, 491	7
Requirements for specialization:	
Dramatic Arts 346, 351, 455, 456, 452, 453 or 255 plus alternatives 1, 2, 3, or 4 (listed below) to total 6 hours	6
Total Hours	<u>34</u>
Choices in alternate areas:	
(1) Education	
(2) Marketing	
(3) Business management	
(4) Journalism should be approved by student's adviser.	
Additional courses recommended:	
Dramatic Arts 320, 321, 347, 450	
Speech 305, 401	

Sequence of Courses

	F	S
First Year	101 (3)	121 (3)
Second Year	241 (2)	*255 (2)
	305 (2)	
Third Year	346 (2)	347 (2)
	320 or 321 (2)	351 (2)
	401 (2)	460 (3)
Fourth Year	455 (2)	456 (2)
	449 (3)	450 (3)
	371 (2)	491 (2)

*The student may take either 452 and 453, or 255.

Students concentrating in radio and TV should select a closely related minor. The following minors are suggested: marketing, business management, office management, journalism, or education.

Lower Division Courses

- 121 (121, 122). **Voice, Diction and Interpretation.** (3:3:3) F.S. (G-HA) Staff
Practical and general course designed to improve vocal skill and oral reading. Attendance at Monday night Mask Club required.
- 123 (123). **Fundamentals of Acting.** (3:3:1) F.S. Woodbury
Basic theories and techniques of acting. Attendance at Monday night Mask Club required.
- 126 (126). **Makeup.** (1:1:2) F.S. Henson, Michie
Theory and practice of theatrical makeup. Attendance at Monday night Mask Club required.
- 241 (241). **Introduction to Radio and TV Broadcasting.** (2:2:3) F.S. Staff
Scope, influence, current practice, problems, and social implications of the American system of radio and television broadcasting; microphone and TV camera practice and experience. Attendance at Monday night Mask Club required.
- 255 (255). **Beginning Radio and TV Production.** (2:2:0) F.S. McKinlay, Rich
Practice in performance, production, and direction of radio and television dramatic and commercial programs.

Upper Division Courses

- 315 (315). **Introduction to the Theatre.** (2:2:1) F.S. (G-HA) Staff
Introduces students to fundamental theories of theatre arts. Develops a discriminating appreciation and provides a basic background for those interested in theatre. Attendance at Monday night Mask Club required.
- 316 (316, 317). **Theatre History.** (3:3:0) F. (G-HA) Hansen
The theatre from its beginning through the Elizabethan period.
- 317 (317, 318). **Theatre History.** (3:3:0) S. (G-HA) Woodbury
The theatre from the Restoration period to the present.
- 319 (319). **Stage Craft.** (2:3:0) F.S. Henson, Struthers
Theories and techniques of stage craft. Attendance at Monday night Mask Club required.
- 320 (320). **Stage Craft Lab.** (1-4:0:3-12) F.S. Henson, Struthers
Laboratory application of theories and techniques. Attendance at Monday night Mask Club required.
- 321 (321). **Stage Craft Lab.** (1-4:0:3-12) F.S. Henson, Struthers
Laboratory application of theories and techniques. Attendance at Monday night Mask Club required.
- 323 (323). **Technique of Playwriting.** (1-3:1-3:2) F.S. Staff
Theory and extensive practice in play writing. Attendance at Monday night Mask Club required.
- 325 (325). **Advanced Interpretation.** (2:1:2) S. Clinger, Golightly
Artistic oral reading on advanced level. Emphasis on dramatic reading, humorous reading, and pantomime.
- 346 (346, 347). **Radio and Television Production Workshop.** (2:1:2) F. Rich, Williams
Experience in planning and producing radio and television programs for University Broadcasting Service Network, KBYU, and KUED-TV.
- 347 (347, 348). **Radio and Television Production Workshop.** (2:2:0) S. McKinlay, Rich
Experience in planning and producing radio and television programs for University Broadcasting Service Network.

- 351 (251, 351). Radio and Television Program Writing.** (1-3:1-2:1) F. Prerequisite: consent of instructor. Williams
Practice in writing various types of broadcast continuity and low-cost types of radio and television programs.
- 360 (570, 571). Creative Dramatics in the Schools.** (2:2:0) F.S. Golightly, Mitchell
Directing for audiences of children and youth. Participation in Youtheatre productions. Attendance at Monday night Mask Club required.
- 412 (412). Religious Drama.** (2:2:0) F.S. Hansen
- 423 (422, 423). Advanced Acting.** (3:3:1) S. Hansen
Theory in characterization and advanced acting techniques. Attendance at Monday night Mask Club required.
- 427p (427p). Dramatic Technique.** (1:3:0) F.S. Staff
Instruction in advanced dramatic techniques. Special fee.
- 449 (449). Radio and Television Programming and Audiences.** (3:3:0) F. McKinlay
Analysis and extensive observation of basic program forms used in radio and television; examination of effective program structures and appeals; consideration of audience situation and measurement.
- 450 (450). Radio and Television Law and Program Planning.** (3:3:0) S. Williams
The influence of public attitudes and decisions of regulatory bodies on basic program standards; practice in planning radio and television programs consistent with these standards.
- 452 (452, 453). Radio and Television Announcing.** (1:1:0) F. Prerequisites: Speech 121, 241, or consent of instructor. McKinlay
Practice in presentation of all types of radio and television announcer materials.
- 453 (453, 454). Radio and Television Announcing.** (1:1:0) S. Prerequisites: Speech 121, 241, or consent of instructor. McKinlay
Practice in presentation of all types of radio and television announcer materials.
- 455 (455, 456). Advanced Television Production and Direction Workshop.** (2:1:2) F. Prerequisite: consent of instructor. Rich, Tarbox
Practice in production and direction of television programs for educational and commercial TV stations.
- 456 (456, 457). Advanced Television Production and Direction Workshop.** (2:1:2) S. Prerequisite: consent of instructor. Rich, Tarbox
Practice in production and direction of television programs for educational and commercial TV stations.
- 460 (460). Directing.** (3:3:3) F.S. Staff
Theories and techniques of directing a play. For advanced students only. Attendance at Monday night Mask Club required.
- 491 (491). Senior Seminar.** (2:2:1) S. Clinger, Hansen
Required of all majors and minors. Attendance at Monday night Mask Club required.

Advanced Undergraduate or Graduate Courses

- 572, 573 (572, 573). Children's Theatre.** (2:2:1) F. Golightly, Mitchell
Directing for audiences of children and youth. Participation in Youtheatre productions. Attendance at Monday night Mask Club recommended.
- 577 (577, 578). Playwriting.** (1-3:1-3:0) F. Hansen, Mitchell
Advanced techniques and theories.

- 578 (578, 579). **Playwriting.** (1-3:1-3:0) S. Hansen, Mitchell
Advanced techniques and theories.

Graduate Courses

- 603 (603). **Radio and Television Projects.** (1-4:1-4:0) S. Staff
605 (605). **History of Radio and Television Programming.** (2:2:0) S. Staff
643 (643). **Methods and Problems of Research in Speech and Dramatic Arts.**
(2:2:0) F. Mecham
Required of all graduate students. Should be taken as early as possible.
660 (660). **Theory of Interpretation.** (2:2:0) S. Gledhill, Woodbury
661 (661). **Oral Interpretation of Classical Literature.** (2:2:0) F.S. Woodbury
662 (662). **Regional Dialects.** (2:2:0) S. Clinger
663 (663). **Program Building and Lecture Recital.** (2:2:0) F. Gledhill
664 (664, 665). **History of Theatre I.** (3:3:0) F. Hansen
665 (665, 666). **History of Theatre II.** (3:3:0) S. Woodbury
667 (667). **History of Acting.** (2:2:0) F. Woodbury
668 (668). **Special Problems in Theatre History.** (1-3:1-3:0) F.S. Staff
670 (New). **Advanced Play Production—Technical.** (2:2:0) S. Staff
671 (671). **Experimental Theatre.** (2:2:0) F. Hansen
672 (672). **Problems of the Producing Director.** (2:2:0) F. Hansen
673 (673). **Advanced Play Production—Directing.** (2:2:0) S. Hansen
674 (674). **Projects in Theatre.** (1-4:1-4:0) F.S. Staff
675 (675, 676). **Stage Design.** (2:2:1) F. Staff
676 (676, 677). **Stage Design.** (2:2:1) S. Staff
678 (678). **Stage Lighting.** (1-2:1-2:0) F.S. Staff
690 (690). **Seminar in Mass Communication.** (1-3:1-3:0) F.S. Staff
691 (691). **Selected Readings in Radio and Television.** (1-3:1-3:0) F.S. Staff
696 (696). **Seminar in Interpretation.** (1-3:1-3:0) F.S. Gledhill, Woodbury
697 (697). **Seminar in Arena Theatre.** (1-4:1-4:0) F.S. Hansen
699 (699). **Thesis for Master's Degree.** (Arr.) F.S. Staff

DEPARTMENT OF SPEECH

The B.A., B.S., M.A., and M.S. degrees are offered by the department.
Students may elect to specialize in one of the two areas of speech.

AREAS OF CONCENTRATION

Public Address	Hours
Basic Courses:	
Dramatic Arts 121, 241, 460	8
Speech 101, 371, 491	7
Required for Specialization:	
111, 305, 401, 402, 7 or 8 hours electives from Dramatic Arts 123, 255, 325, or Speech 524, 525, 547	15-16
Total Hours	30-31

Additional courses recommended:

Speech 260; courses in American history and government.

Sequence of Courses

	F	S
First Year	101 (3)	121 (3)
Second Year	111 (2)	241 (2)
	305 (2)	
Third Year	401 (2)	402 (2)
	460 (3)	
Fourth Year	371 (2)	491 (2)

Speech and Hearing Science and Rehabilitation

Hours

Basic Courses:

Dramatic Arts 121, 241, 460	8
Speech 101, 371, 491	7

Requirements for specialization:

372, 373, 374, 380, 383, 446, 484, 541, 545, plus selection of alternatives 1, 2, or 3 below	14
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Courses in alternate areas:

(1) Speech 366, 381	4
(2) Speech 381, 542	4
(3) Audiology 370, 382, 561	5

Total Hours 34-35

For those seeking certification as public school speech and hearing therapists, the general elementary credential is required. Course work for this credential may be substituted as follows: Speech 475 (4 hrs.) for one semester of practice teaching; Speech 380, 381, 374 (2 hrs. each) will permit taking Instruction 320 only (in lieu of the regular curriculum courses). Those seeking the additional speech and hearing credential must take in addition to the above, E.R.S. 560 (Education of Exceptional Children, 2 hrs.)

Sequence of Courses

	F	S
First Year	101 (3)	121 (3)
	241 (2)	260 (2)
Second Year	270 (2)	371 (2)
	366 (2)	372 (1)
Third Year	373 (2)	381 (2)
	460 (3)	383 (1-3)
	380 (2)	374 (2)
	446 (2)	
Fourth Year	484 (1)	542 (2)
	541 (1)	491 (2)
	545 (2)	

Note: Speech 260 (Phonetics), Speech 270 (Introduction to Speech Science and Phonetics), Speech 542 (Organic Speech Disorders), Speech 547 (Psychology of Speech), Speech 560 (Advanced Audiology), and Psychology 340 (Mental Hygiene) are applicable toward A.S.H.A. certification. For instructions on additional certification requirements (A.S.H.A., public school credentials, etc.) consult with speech and hearing area staff.

The requirements for a minor in speech and hearing rehabilitation are Speech 101, 121, 366, 371, 373, 380, 381, 383, 484, 545.

Lower Division Courses

57 (107, 108). Speech for Foreign Students. (0:5:0) F.	Staff
58 (108, 109). Speech for Foreign Students. (0:5:0) S.	Staff

- 60 (New). Remedial Speech.** (0:0:3) F.S. Staff
A non-credit service course for college students who have speech and/or language problems.
- 101 (101). Fundamentals of Speech.** (3:3:1) F.S. Staff
Beginning course to aid self-improvement in speech as a mode of communication. Provides opportunity to practice for greater effectiveness in personal use of the various speech skills. Recommended for speech majors, prospective teachers and students who desire improvement in their everyday speech activities.
- 102 (102). Introduction to Public Speaking.** (2:2:1) F.S. Staff
Practical and general service course designed for students who desire to improve their speech efficiency, poise, and self-confidence in public speaking situations. Provides opportunity to develop and improve skill in organization and delivery of all types of speeches encountered in business, professional, social, and religious activities.
- 105p (105p). Speech Clinic.** (1:0:1-5) F.S. Staff
Corrective treatment of stuttering, lisping, and other forms of speech disorders.
- 106p (106p). Speech Coaching.** (1:1:0) F.S. Staff
Personal treatment for students having problems with stuttering, voice, articulation, hearing, etc. Special fee.
- 111 (111). Introduction to Argument and Debate.** (2:2:2) F.S. Richardson
Principles of argumentation and practice in debate.
- 112 (112, 113). Debate Technique.** (1:1:1) F.S. Bateman, Richardson
Open to members of the forensic squad who obtain approval of the Speech Department and Debate Council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.
- 113 (113, 114). Debate Technique.** (1:1:1) F.S. Bateman, Richardson
Open to members of the forensic squad who obtain approval of the Speech Department and Debate Council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.
- 260 (260). Practical Phonetics.** (2:2:0) F.S. de Jong
- 270 (470). Speech Science.** (2:2:2) F. Morley
The aspects of physics, physiology, American phonetics, and experimental phonetics that underlie the speech process.

Upper Division Courses

- 301 (301, 303). Debate Techniques.** (1:1:1) F.S. Bateman, Richardson
Open to members of the forensics squad who obtain approval of the Speech Department and the Debate Council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.
- 302 (302). Debate Techniques.** (1:1:1) F.S. Bateman, Richardson
Open to members of the forensics squad who obtain approval of the Speech Department and the Debate Council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.
- 304p (304p). Public Speaking.** (1:1:0) F.S. Staff
Individual instruction. Special fee.
- 305 (103, 305). Discussion and Conference Leadership.** (2:3:0) F.S. Bateman, Richardson
Concerned with basic democratic procedure for cooperative thinking. Of-

fers experience in business and industrial conference leadership. For those who serve on committees or boards; conduct classroom sessions; conduct staff meetings; talk over and resolve common problems in church, school, or office; and for all who are preparing to participate in or lead informal discussion in small groups.

- 307 (307). Program Directors.** (1:1:0) F.S. Staff
Designed to help and train students in the art of directing and emceeing formal and informal programs. To cover audience psychology; how to introduce a performer; how to tell a story; how to form and direct entertainment programs.
- 366 (366). Speech in Elementary School.** (2:2:0) F.S. Home Study also. Jex
Objectives and methods of developing good speech habits in children. Recognition and management of minor speech problems.
- 371 (471). Introduction to Speech Correction.** (2:2:0) F.S. Morley
Causes, symptoms, and treatment of various types of abnormal speech.
- 372 (472). Normal Development of Oral Language.** (1:1:0) F. Mecham
The normal development of oral language as influenced to age maturation and other related factors.
- 373 (473). Introduction to Audiology.** (2:2:2) F.S. Weaver
- 374 (474). Lip Reading.** (2:3:0) S. Prerequisite: Speech 373. Weaver
Methods of teaching lip reading and auditory training to children and adults.
- 377 (377). Secondary Teaching Procedures.** (3:3:1) S. Prerequisite: Instruction 301. Clinger, Golightly
Lectures, demonstrations, observation.
- 380 (480). Clinical Methods in Correction of Functional Disorders of Speech.** (2:2:0) F.S. Jex
Beginning clinical methods in speech correction.
- 381 (481). Clinical Methods in Correction of Organic Speech Disorders.** (2:2:0) F.S. Prerequisite: Speech 371. Staff
Advanced clinical methods in speech correction.
- 382 (482). Clinical Methods of Teaching Speech to the Deaf and Hard of Hearing.** (2:2:0) S. Prerequisite: Speech 373. Weaver
Methods of teaching and oral language to the hearing handicapped.
- 383 (483). Clinical Practice in Speech Correction.** (1-3:0:3-9) F. Prerequisite: Speech 380. Staff
Supervised practice in handling various types of speech and hearing disorders.
- 401 (401, 403). Advanced Public Speaking.** (2:2:0) F. Prerequisite: Speech 101. Bateman, Richardson
Advanced study and practice in techniques of speaking.
- 402 (402). Advanced Argument and Debate.** (2:2:0) S. Prerequisite: Speech 111. Bateman, Richardson
Analysis of classic debates and practice in argumentative writing and speaking.
- 446 (546). Anatomy of the Ear and Vocal Organs.** (2:2:0) F. Mecham
- 475 (475). Practice Teaching in Correction of Speech and Hearing Disorders in the Public Schools.** (4:0:14) F.S. Prerequisites: Instruction 320 and completion of 200 clock hours of comprehensive supervised clinic practicum in speech and hearing correction in 383, 484 or both. Jex
Supervised teaching in public elementary school for a full semester on a half-day basis. Qualified student clinicians who register for this course

are placed in a public school district where there is a practicing public school speech and hearing correctionist. The student teachers get experience in diagnosis and therapy with children who have speech and hearing disorders. Student teachers participate in weekly seminars and personal conferences with the supervisors. The nature of this course dictates that students limit their load to 10 semester hours. A special fee of \$15.00 is charged to equalize the cost of travel for student teachers regardless of location of cooperating public schools.

- 479 (478, 479). Secondary Student Teaching.** (8:1:20-80) F.S. Prerequisites: Speech Education 377 and completion of two-thirds of courses required for teaching major and minor or composite major. Clinger, Golightly
For course description and fees see Instruction 479.
- 483, 484 (484, 485). Clinical Practice in Speech Correction.** (1:0:4) F.S. Prerequisite: Speech 380. Staff
Supervised practice in handling various types of speech and hearing disorders. May be repeated to a total of three hours.
- 491 (491). Senior Seminar.** (2:2:1) S. Clinger, Hansen
Required of all majors and minors. Attendance at Monday night Mask Club required.

Advanced Undergraduate or Graduate Courses

- 524 (524). High School Forensics and Programming.** (1-2:1-2:1-6) S. Bateman
- 525 (525). Debate Coaching.** (1-2:1-2:0) F.S. Richardson
Designed for prospective debate coaches. Covers debate techniques and how they are taught.
- 527 (527). Storytelling.** (2:2:0) S. Clinger, Golightly
Art of storytelling. Especially valuable to teachers and youth leaders.
- 541 (541). Stuttering.** (1:1:0) F. Morley
- 542 (542). Organic Speech Disorders.** (2:2:0) S. Mecham
- 545 (545). Public School Audiometry.** (2:2:2) F.S. Prerequisite: Speech 373. Weaver
- 547 (547). Psychology of Speech.** (2:2:0) S. Prerequisite: Psychology 111. Morley
- 560 (560). Clinical Audiology.** (2:2:2) F.S. Prerequisite: Speech 373. Staff
- 561 (New). Hearing Aids.** (1:1:0) S. Weaver

Graduate Courses

- 621 (621). Ancient Rhetoric and Oratory.** (2:2:0) F. Bateman
- 622 (622). History of British Public Speaking.** (2:2:0) S. Bateman
- 623 (623). History of American Oratory and Public Address.** (2:2:0) F. Bateman
- 624 (New). Contemporary Public Address.** (2:2:0) S. Bateman, Richardson
- 640 (640, 641). Graduate Clinical Practice Speech and Hearing.** (1-2:1-2:0) F. Staff
Required of all graduate students in speech and hearing.
- 641 (641, 642). Graduate Clinical Practice Speech and Hearing.** (1-2:1-2:0) S. Staff
Required of all graduate students in speech and hearing.

- 643 (643). Methods and Problems of Research in Speech and Dramatic Arts. (2:2:0) F. Mecham
Required of all graduate students. Should be taken as early as possible.
- 645 (645). Advanced Studies in Stuttering. (2:2:0) S. Morley
- 646 (646). Advanced Studies in Cleft Palate. (2:2:0) F. Mecham
- 647 (647). Advanced Studies in Cerebral Palsy. (2:2:0) F. Mecham
- 648 (648). Advanced Studies in Aphasia. (2:2:0) S. Mecham
- 656 (656). Special Projects in Speech Pathology. (1-4:1-4:0) F.S. Staff
- 692 (692). Seminar in Public Speaking. (1-3:1-3:0) F.S. Bateman
- 693 (693). Special Studies in Speech Pathology. (1-3:1-3:0) F.S. Staff
- 695 (695). Seminar in Psychoacoustics of Speech and Hearing. (1-3:1-3:0) F. Staff
S.
- 699 (699). Thesis for Master's Degree. (Arr.) F.S. Staff



Economics

Professors: Clark, Nelson.

Associate Professors: Gardner, Mangum.

Assistant Professors: Doxey (chairman, 308 JK), Davies, Monsen.

The Economics Department serves three types of students:

1. The economics major, for whom a wide range of challenging areas is available.
2. All business students, assisting them to see where their specialty fits into the general economic picture.
3. The general University student, aiding him in his role as a consumer, worker, and citizen.

The philosophy of the department is to provide a liberal background to serve as a basis for entrance into many professional areas. Thus, a minimum of special courses is required, allowing the student considerable flexibility in developing his own program.

Several programs are available to serve students majoring in economics:

1. General business economics—for students desiring to go directly into business.
2. Labor relations and labor economics—for those intending to make labor relations a profession.
3. Pre-professional economic training—for those contemplating entering law school, a graduate school of business, government service, or similar areas of study.
4. Economic theory—for students intending to do graduate work in economics or allied fields.
5. International economics—for those desiring to enter foreign service or engage in international trade.
6. Teaching preparation for teachers in junior colleges.

Economics is also designated as a composite teaching major and teaching minor. (See College of Education.)

The bachelor's degree in economics is offered in both the College of Business and the College of Humanities and Social Sciences.

Requirements for a Major in the College of Business.

Economics 111, 112, 274, 345, 453, 486 (or 586 and 587) and ten additional hours.

Statistics 221 and one other course in statistics.

Business Management 340 and 347.

Accounting 131, 201 (or 211) and 342.

Requirements for a Major in the College of Humanities and Social Sciences.

Economics 111, 112, 274, 345, 453, 486 (or 586 and 587) and ten additional hours.

Statistics 221 and one other course in statistics.

Completion of minor requirement of no fewer than 14 hours in one or a

combination of two departments in the College of Humanities and Social Sciences.

Lower Division Courses

- 101 (101). Introduction to Economics.** (3:3:0) F.S.Su. Home Study also. (G-SS) Staff
Basic general education course in economics to prepare students for citizenship by training in fundamental economic principles and developing an understanding of the most important aspects of some of the critical economic problems facing America and the world today.
- 111 (111). Economic Principles and Problems.** (3:3:0) F.S.Su. (G-SS) Staff
The first of a two-semester sequence in which an intensive analysis is made of basic economic principles and problems.
- 112 (112). Economic Principles and Problems.** (2:2:0) F.S.Su. (G-SS) Prerequisite: Economics 111. Staff
A continuation of 111.
- 274 (274). Economic and Financial History of the United States.** (3:3:0) F.S. Su. Home Study also. (G-HA) Davies, Doxey
The important economic developments in the history of the United States. Special attention is given to their effect on the present-day economy.

This course also counts in economics:

Geography 231. Economic Geography. (3:3:0)

Upper Division Courses

- 345 (345). Intermediate Economic Analysis.** (3:3:0) F.S.Su. Prerequisites: Economics 111 (or 101) and 112. Staff
Price, distribution, and national income analysis.
- 358 (358). International Trade and Finance.** (3:3:0) F. (G-SS) Doxey
An introduction to the principles and problems of international trade and finance. Special emphasis is placed on their application in the United States.
- 383 (383). Comparative Economic Systems.** (3:3:0) S. (G-SS) Monsen
Analysis and critical appraisal of contemporary economic systems: Capitalism, Socialism, and Communism.
- 430 (New). Economic Development.** (3:3:0) S. Prerequisite: Economics 101 or 111. Monsen
A study of the theory and experience of achieving economic growth in both underdeveloped and developed economies.
- 453 (453). Money and Banking.** (3:3:0) F.Su. Clark
Principles of money and banking as related to monetary and banking theory and policy.
- 454 (454). Real Estate and Urban Land Economics.** (3:3:0) S. Nelson
Forces of demand and factors of supply of urban land as they relate to real estate credit, rents, prices, and city growth.
- 461 (461). Labor Problems and Labor Relations.** (3:3:0) F. Davies
Examination of major areas in which management and unions come into contact, and the forces affecting this relationship. Special emphasis is given to collective bargaining.
- 462 (462). Labor and Public Policy.** (3:3:0) S. Mangum
An examination of the impact of unionism on the public and the development of a public labor policy.
- 486 (New). Advanced Economic Theory.** (3:3:0) S. Prerequisites: Economics 111, 112, and 345. Staff
An advanced course in economic theory, covering price, production, distribution, national finance, and employment analysis.

Advanced Undergraduate or Graduate Courses

- 510 (510). Utah Workshop on Economic Education. (3:Arr:Arr.) Su. (Continuous for three weeks.)
- 558 (558). International Trade and Finance. (3:3:0) S. Doxey
- 575 (575). Government Finance. (3:3:0) F. Mangum
- 576 (576). Government and Business. (3:3:0) S. Mangum
- 580 (580). History of Economic Thought. (3:3:0) F. Davies
- 586 (586). Theory of Price. (3:3:0) F. Gardner
- 587 (587). Theory of Income, Employment, and the Price Level. (3:3:0) S. Gardner
- 594 (574). Seminar in Economic History. (2:2:0) F. Doxey

These courses also count in economics:

Geography 522. Urban Geography. (2:2:0)

Agricultural Economics 525. Production Economics. (2:2:0)

Geography 553. Industrial Geography. (3:3:0)

Agricultural Economics 580. Agricultural Policy. (2:2:0)

Graduate Courses

- 681 (681). Contemporary Economic Thought. (2:2:0) S. Gardner
- 682 (682). Business and Economic Fluctuations. (2:2:0) F. Nelson
- 692 (594). Seminar in Monetary and Fiscal Policy. (2:2:0) F. Prerequisite: Economics 345. Staff
- 693 (683). Seminar in Comparative Economic Systems. (2:2:0) S. Nelson
- 694 (593). Seminar in Labor Problems and Labor Relations. (2:2:0) S. Prerequisite: Economics 461. Davies, Mangum
- 696, 697 (696, 697). Research. (Arr.) F.S.Su. Staff
- 699 (699). Thesis for Master's Degree. (Arr.) Arr. Staff



Educational Administration

Professors: Oakes (chairman, 126 McKay), Burrup, Moffitt, Morrill, Nuttall, Woolf.

Associate Professor: Barnett.

Assistant Professors: Harms, Ovard.

The department offers graduate courses for the preparation, certification, and professional development of school administrative and supervisory personnel. Academic work is available for those preparing for professional service in the areas of general administration—including the school superintendency, director of educational research, administrative assistants, and others), the school principalship (elementary and secondary), school business management, general supervision (supervisor, director of instruction, curriculum director, and others), and administration of higher education.

Undergraduate Course

- 310x (310). The State, the School, and the Teacher.** (2:2:0) F.S.Su. Staff
Understanding the school and its relationship to the community, the state, and the nation; how schools are organized and administered, with emphasis upon Utah school organization and Utah school laws.

Graduate Courses

- 600 (600, 703). Organization and Administration of Public Schools.** (3:3:0) F.S.Su. Moffitt, Morrill, Oakes
- 610 (610). Public School Finance.** (2:2:0) F.S.Su. Barnett, Burrup, Nuttall
- 619 (619). Personnel Problems of the School Staff.** (2:2:0) F.S.Su. Barnett, Harms
- 631 (631). The Elementary School Principalship.** (2:2:0) F.S.Su. Barnett, Harms, Morrill
- 644 (644). Work of the Secondary School Principal.** (2:2:0) F.S.Su. Burrup, Ovard, Woolf
- 651 (651). Administration of Auxiliary Services.** (2:2:0) F.Su. Barnett
- 654 (654). Administration of Pupil Personnel.** (2:2:0) S.Su. Burrup, Ovard
- 665 (665). Supervision of Education.** (2:2:0) F.S.Su. Harms, Moffitt, Woolf
- 673 (673). School Law.** (2:2:0) F.S.Su. Barnett, Burrup, Oakes
- 680 (New). Field Work in Educational Administration.** (3:1:4) F.S.Su. Harms, Nuttall
- 690, 691 (690, 691). Seminar.** (2:2:0) F.S.Su. Staff
- 693, 694 (693, 694). Independent Readings.** (1-2:3-6:0) F.S.Su. Staff
- 696, 697 (696, 697). Independent Research.** (1-2:3-6:0) F.S.Su. Staff
- 698 (698). Field Project.** (2-4:Arr.:Arr.) F.S.Su. Staff
- 699 (699). Thesis for Master's Degree.** (2-4:Arr.:Arr.) F.S.Su. Staff
- 710 (New). Problems of Elementary School Administration.** (2:3:0) S.Su. Harms

- 712 (712). **The Junior High School.** (2:2:0) S.Su. Ovard, Woolf
- 723 (723). **The Senior High School.** (2:2:0) F.Su. Ovard, Woolf
- 730 (730). **Business Administration of the Public Schools.** (2:2:0) S.Su.
Burrup
- 737 (737). **Research and Survey Procedures in Educational Administration.**
(2:2:0) S.Su. Morrill, Oakes
- 738 (626, 738). **Leadership Functions in Education Administration.** (3:3:0) F.
S.Su. Moffitt, Morrill
- 741 (New). **Organization and Administration of Continuing Education.** (3:3:0)
S.Su. Ovard
- 748 (748). **College and University Organization and Administration.** (2:2:0)
F.Su. Oakes, Woolf
- 749 (749). **Evaluation and Accreditation of Educational Institutions.** (2:2:0)
F.Su. Oakes
- 750 (750). **Public School Building Programs.** (2:2:0) S.Su. Morrill, Ovard
- 775 (New). **Educational Administrative Theory.** (3:3:0) F.S.Su.
Burrup, Oakes, Ovard
- 786 (786). **Problems of Taxation and Financial Support of Public Institutions.**
(2:2:0) F.Su. Burrup, Nuttall
- 798 (798). **Doctoral Field Project.** (Arr.) F.S.Su. Staff



Educational Philosophy and Programs

Professor: Romney.

Associate Professor: Alley (chairman, 202 McKay).

Assistant Professors: Hardy, Ovard.

This department is devoted to a critical examination of society for the purpose of determining the general values upon which our educational system should be founded. The approach is historical, political, sociological, religious, and philosophical. The courses also deal with the professional nature of education and educators and the roles of non-educators and educators in public education.

The courses are offered in four divisions: philosophy of education, history of education, the school and the social order, and educational objectives and programs. Except for one service course and an independent readings course, all courses are at the graduate level.

Upper Division Courses

- 415 (415). Educational Values.** (2:2:0) F.S. Home Study also. Prerequisite: Instruction 449 or 479. This may be taken in the same semester as Ed. Phil. 415 on the "block" plan. Staff

Identification and analysis of fundamental American values and of value systems upon which American educational objectives should be based. Problems and concepts encountered in earlier courses in the educational sequence are examined in the light of the values studied.

- 493, 494 (493, 494). Independent Readings.** (1-2:3-9:0) F.S. Staff

Graduate Courses

PHILOSOPHY OF EDUCATION

- 604 (604, 605). Comparative Current Educational Philosophy.** (3:3:0) F.S.Su. Alley
- 605 (605, 615). Educational Classics and Contemporary Issues.** (3:3:0) S. Alley, Hardy

HISTORY OF EDUCATION

- 621 (621, 622). History of Education in Europe and America.** (4:4:0) F.Su. Hardy
- 631 (631). Education in a World Setting.** (2:2:0) S. Romney

THE SCHOOL IN THE SOCIAL ORDER

- 642 (642). Education in the Social Order.** (2:2:0) S.Su. Ovard

EDUCATIONAL OBJECTIVES AND PROGRAMS

- 646 (New). Objectives and Programs of Continuing Education.** (2:2:0) Su. Alley
- 662 (662). Philosophy of Program Planning.** (2:2:0) S. Alley, Oakes

GENERAL COURSES

690, 691	(690, 691). Seminar. (1-3:1-3:0 ea.) F.S.	Staff
693, 694	(693, 694). Independent Readings. (1-2:3-9:0 ea.) F.S.	Staff
696, 697	(696, 697). Independent Research. (1-2:3-9:0 ea.) F.S.	Staff
698	(698). Field Project. (Arr.) Arr.	Staff
699	(699). Thesis. (Arr.) Arr.	Staff



Educational Research and Services

Professors: Downing (chairman, 255 McKay), Egbert, Lloyd, Reid, Romney.

Associate Professors: Bauer, Harris, Krider, Parker.

Assistant Professors: Jensen, Moses.

Instructors: Orrock, Wilson.

The offerings and programs in this department are of two kinds: (1) those which provide teachers and special personnel with the necessary understandings and insights into human behavior and learning which they will need in working with normal and with exceptional students, and (2) those which promote research and extend educational services to the University and the public schools. In this latter instance the departmental graduate programs in personnel and guidance and in special education are of particular importance to the schools.

A program for training of school psychologists has recently been introduced in collaboration with the Department of Psychology. This is a master's degree program, but interested students should begin the foundation courses early in their undergraduate years. The Department of Educational Research and Services also offers a master's degree in educational psychology.

Students interested in these four graduate programs should contact the department chairman for details.

The courses in this department are listed in three groups: educational psychology and guidance, special education, and general.

EDUCATIONAL PSYCHOLOGY AND GUIDANCE COURSES

Upper Division Courses

- 304 (304). Educational Psychology.** (2:2:0) F.S.Su. Home Study also. Prerequisites: Inst. 449 or 479, and H.D.F.R. 210, Psychology 320 or 321. Staff

Enrollment limited to homemaking education majors and those with composite majors which include psychology. Others should receive special permission from the instructor. Psychological facts and principles related to the teaching-learning situation.

- 403 (403). Development and Learning.** (4:4:0) F.S.Su. Prerequisite: E.R.S. 449 or 479. Staff

Designed to give the student an understanding of the psychological principles related to the teaching-learning situation. Attention is given to such topics as the learning process, readiness, individual differences, motivation, and evaluation.

- 410 (410). Tests and Measurements for Classroom Teachers.** (2:2:0) S.Su. Harris

Emphasizes techniques for construction and use of classroom tests as measuring and teaching devices; consideration also given to standardized tests and evaluation techniques other than testing.

Advanced Undergraduate or Graduate Courses

- 540 (540). Statistical Methods.** (2:2:0) F.Su. Bauer, Egbert

Consideration is given to measures of central tendency, variability, and linear correlation. Elementary concepts of probability and inference are discussed. Required but may not be counted as part of the 30 hours for the master's degree by students majoring in this department.

- 541 (541). Advanced Statistics.** (2:2:0) S.Su. Prerequisite: E.R.S. 540. Egbert

550 (550). Introduction to Guidance Services. (2:2:0) F.S.Su.

Downing, Jensen, Moses, Parker

Introduction to principles and practices of the guidance program in public schools. Designed for prospective teachers of both elementary and secondary levels. This course is required but may not be counted as part of the 30 hours for the master's degree by students majoring in this department.

Graduate Courses**601 (601, 602). Advanced Educational Psychology. (2:2:0) S.Su. Prerequisite: E.R.S. 403.**

Bauer, Harris

606 (606). Behavior Problems in the Schools. (2:2:0) F.S.Su. Prerequisites: E.R.S. 403, 550.

Downing

610 (610). Educational Tests and Measurements. (2:2:0) F.Su. Bauer, Harris**611 (611, 621). Guidance Testing and Diagnosis. (3:3:0) F.Su. Prerequisite: E.R.S. 550.**

Jensen, Moses

612 (612). Diagnosis of Achievement Difficulties. (2:2:0) F.Su. Prerequisite: E.R.S. 610 or 611.

Harris, Krider

620 (620, 621). Counseling Theory and Practice. (3:3:0) F.Su. Prerequisite: E.R.S. 550.

Downing, Moses, Parker, Reid

622 (622). Group Techniques for Counselors. (2:2:0) S.Su. Prerequisites: E.R.S. 550 and 620.

Downing, Jensen, Moses

624 (624). Industrial Counseling. (2:2:0) Arr. Prerequisites: E.R.S. 550, 620, 651.

Staff

625 (625). Advanced Counseling Theory. (2:2:0) S.Su. Prerequisites: E.R.S. 620 and Psychology 550.

Parker, Reid

640 (640). Evaluation of Educational and Psychological Literature. (2:2:0) S. Su.

Staff

641 (641). Educational Research and Thesis Writing. (2:2:0) F.Su. Prerequisite: E.R.S. 540.

Egbert

650 (650). Guidance Workshop. (2:2:0) Arr. Prerequisite: E.R.S. 550.

Staff

651 (651). Informational Services in Guidance. (3:3:0) S.Su. Prerequisite: E.R. S. 550.

Downing

653 (653). Administration of Guidance Services. (2:2:0) S.Su. Prerequisite: E.R.S. 550.

Downing

656 (656). Student Personnel Services in Higher Education. (2:2:0) S. Pre-requisite: E.R.S. 550.

Lloyd

670 (670, 672, New). Practicum in Testing and Counseling. (5:2:10) F.S.Su. Prerequisite: consent of instructor.

Jensen, Parker

675 (675). Practicum in School Psychology. (2-4:1-2:4-8) S. Prerequisite: consent of instructor.

Moses

690 (690). Seminar in Personnel and Guidance. (1:1:0) F.S.Su. Prerequisite: consent of instructor.

Staff

771 (New). Practicum in Counseling. (3:1:8) S.Su. Prerequisite: consent of instructor.

Parker

790 (New). Seminar: Educational Measurement. (2:2:0) S.Su. Prerequisite: consent of instructor.

Harris, Jensen

791 (New). Seminar: Learning Theory Applied to Education. (2:2:0) S.Su. Prerequisite: Psychology 560.

Bauer, Egbert

SPECIAL EDUCATION COURSES

Advanced Undergraduate or Graduate Courses

- 560 (560). Education of Exceptional Children. (3:3:0) F.S.Su. Wilson
A general course designed to acquaint the student with the causes, recognition, incidence, and characteristics of all types of exceptional children. Designed to meet needs of both classroom teacher and person going into special education.
- 561 (561). Standard English Braille. (2:2:0) Arr. Staff
- 562 (562). Advanced Standard English Braille. (2:2:0) Arr. Prerequisite: E.R.S. 561. Staff
- 563 (563, 564). Problems in the Education of the Visually Handicapped. (3:3:0) Arr. Prerequisite: consent of instructor. Staff

Graduate Courses

- 630 (630). Corrective Teaching Techniques. (2:2:0) S.Su. Prerequisite: E.R.S. 612 or consent of instructor. Krider
- 662 (662). Workshop in Special Education. (4:4:0) Arr. Prerequisite: consent of instructor. Krider
- 664 (664). Special Education Services in Public Schools. (2:2:0) Arr. Su. only. Staff
- 666 (665, 666). Problems in the Education of Orthopedically Handicapped Children. (3:3:0) F.Su. Prerequisite: E.R.S. 560. Wilson
- 667 (661, 667). Problems in the Education of Mentally Retarded Children. (3:3:0) S.Su. Prerequisite: E.R.S. 560. Krider
- 668 (668). Observation and Participation in Special Education. (2:1:3) F.S.Su. Prerequisite: consent of instructor. Wilson
- 676, 677 (674). Practicum in Special Education. (2:0:6 ea.) S.Su. Prerequisite: consent of instructor. Wilson
- 678, 679 (674, New). Practicum in Corrective Teaching. (2:0:6 ea.) S.Su. Prerequisite: consent of instructor. Krider
- 691 (660). Seminar in Special Education. (2:2:0) S.Su. Prerequisite: consent of instructor. Krider

See also Instruction 624, Arts and Crafts for the Handicapped.

GENERAL COURSES

Upper Division Courses

- 493, 494 (493, 494). Independent Readings. (1:1:3 ea.) F.S.Su. Staff

Graduate Courses

- 693, 694 (693, 694). Independent Readings. (1-2:1-2:2-4 ea.) F.S.Su. Staff
- 696, 697 (696, 697). Independent Research. (1:0:3 ea.) F.S.Su. Staff
- 698 (698). Field Project for Master's Degree. (2-4:Arr.:Arr.) F.S.Su. Staff
- 699 (699). Thesis for Master's Degree. (2-4:Arr.:Arr.) F.S.Su. Staff
- 798 (New). Field Project for Ed.D. Degree. (Arr.) F.S.Su. Staff
- 799 (New). Dissertation for Ph.D. Degree. (Arr.) F.S.Su. Staff

Electrical Engineering Science

Professors: Bartholomew*, Jonsson.

Associate Professors: Monson (chairman, 175 ELB), Westland.

Assistant Professors: Woodbury, Miner.

Instructor: Chaston.

This department offers a five-year program leading to the degree of Bachelor of Engineering Science in electrical engineering. An acoustical option is offered as an alternate course. The student completing the prescribed course of study will receive comprehensive training in electrical engineering, including the areas of communications, computers, solid state, electronics, energy conversion, systems and circuits, measurements, and automatic control, in addition to the general and religious education given to all undergraduate students at Brigham Young University.

Entrance Requirements

In addition to having fulfilled the general entrance requirements of the University, a student entering this department should have completed 3 units of English and 3 units of high school mathematics which must include elementary algebra, intermediate algebra, and plane geometry.

Students who have not met these requirements must take extra remedial courses as prescribed by the chairman of this department through correspondence, summer school, or regular session. Such a student will normally be required to spend more than five years to complete the prescribed program; preferably he should plan on college enrollment during the summer prior to or following the freshman year.

The high school graduate of superior ability who has completed both college algebra and trigonometry and can demonstrate by examination his comprehension of these subjects may be assigned to the sophomore subjects of physics and calculus and thereby complete the five-year program in approximately four years. Normally he must plan on college enrollment during the summer term prior to or following the freshman year. By taking a slightly more concentrated study load he may graduate at the end of the first semester of the fourth year.

Requirements for Major

To obtain a degree in electrical engineering, the student must complete the program as described below including the same General Education requirements which apply to the Bachelor of Science degree conferred by Brigham Young University. The following abbreviations are used: Ch.E. for chemical engineering; C.E. for civil engineering; E.E. for electrical engineering; and M.E. for mechanical engineering.

Grade Requirements

A student must have received an average grade of "C" or better in analytical geometry, calculus, and physics before being admitted as a regular third-year engineering student. A student who has not obtained this average but feels that he has the qualifications for undertaking engineering work may petition this department for special consideration. If his work subsequently proves unsatisfactory, he will be dropped from the department. Transfer students and advanced students who have been off campus for one or more years should apply before June 1 to avoid possible rejection of admission due to deficiencies.

A cumulative average grade of "C" must be maintained in all advanced mathematics and engineering subjects; otherwise the student is placed on a probationary status in the department. No more than six hours of "D" credit in electrical engineering subjects will be counted toward meeting the departmental requirement for majors. To graduate from this department, a student must have maintained an average grade of "C" or better in all of his course work.

General Education Group Requirements

Engineering science students are subject to all of the General Education requirements listed in this catalog, with the exception that the biological science requirement is reduced to four semester-hours instead of the six semester-hours specified. This may be fulfilled in a single course if desired.

Engineering students may register for 18 hours, exclusive of physical education and the assemblies, in any one semester without obtaining special permission. Those students who work part time should carry a program involving less credit hours. The proper hour load should be determined in consultation with an adviser.

No specific courses are recommended in the biological science and religion group requirement. However, it is particularly recommended that the electrical engineering science student include Economics 101 (Introduction to Economics) and Psychology 111 (General Psychology) in satisfying the social science group requirement.

Normal Sequence of Courses for Majors

(See explanatory notes below.)

First Year					
	F	S			
Chemistry 105, 106	4	4	E.E. 321		4
Math. 111, 112*	5	5	E.E. 350		4
English 111, 112	3	3	Ch.E. 378	3	
C.E. 101	2		Physics 315	3	
Religion	2	2	Religion	3	2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Total Hours	17	17
M.E. 100		1			
Health 130		2	Fourth Year		
Total Hours	16 $\frac{1}{2}$	17 $\frac{1}{2}$		F	S
Second Year			E.E. 431, 432	4	3
	F	S	E.E. 441, 442	4	4
Physics 211, 213	4	4	E.E. 411, 461	2	5
Physics Lab. 212, 214	1	1	C.E. 304, 303	3	3
Math. 213, 214	5	5	M.E. 320, E.E. 591	3	1
C.E. 203, 301	2	3	Restricted elective		3
Religion	2	2	Total Hours	16	18
Economics 101	3		Fifth Year		
Psychology 111		3		F	S
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	M.E. 310	3	
Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$	E.E. 462	3	
Third Year			E.E. 467	2	
	F	S	E.E. 541	4	
Math. 315, 316	3	3	E.E. 592	1	
E.E. 311, 312	5	4	Restricted electives	4	
			History 170		3
			Group electives		12
			Total Hours	17	15

*All students intending to take mathematics must take the mathematics placement test before or at the time of registration.

Note 1: The above program assumes the attendance of the student at devotional assemblies. This earns the student 3 units of religion credit.

Note 2: By suitable course work during summer sessions, the curriculum can be completed at the end of the first semester of the fifth year. Group electives and some technical courses may be taken earlier than shown to facilitate this possibility. If a year's course in engineering graphics is taken in high school, the student may be excused from C.E. 101. It is desirable to complete the group electives as early in the curriculum as time will allow.

Note 3: It is possible for students during the fifth year, upon suitable application, to take course work that may be applied to a graduate degree. The total overall load under this arrangement must not exceed 16 credit hours. Contact the department chairman for further details.

Restricted electives which may be taken by approval of the department chairman include the following courses: Economics 461, E.E. 516, 523, 528, 531, 537, 538, 567, 568, 570, 598; any acoustics course; Business Management 340, 342; Psychology 330, 336; and other approved courses in physics and mathematics.

Fifth Year Acoustical Option

Prospective students will establish their program in consultation with the department chairman.

Upper Division Courses

301, 302 (301, 302, 303). Elements of Electrical Engineering. (4:3:3 ea.) F. S. Prerequisites: Physics 211, 213; Math. 214. Staff

For students not majoring in electrical engineering. Study of electrical circuit theory, electrical machinery, and electronics.

311, 312 (311, 312, 313). Alternating-Current Circuits. (5:5:0; 4:4:0) F.S. Prerequisites: Physics 213; Math. 214; concurrent registration in Math. 315, 316. Staff

Steady-state alternating-current circuits; vectors; complex algebra; series and parallel impedance networks; resonant circuits; non-sinusoidal waves; Fourier analysis. Series parallel networks; coupled circuits; polyphase circuits; vector loci; network theorems; elementary filters; pole-zero theory. Electromechanical transients. Log modulus and phase plots; root-locus; feedback concepts.

321 (321, 322, 313). Electrical Measurements. (4:3:3) S. Prerequisites: Physics 211, 213; concurrent registration in E.E. 312. Staff

The theory, use, limitations, accuracy, and calibration of bridges, potentiometers, indicating, recording and digital instruments, and the application of analog and digital operations to electrical measurements and instrumentation.

350 (315, 350). Magnetism and Solid-State Electricity. (4:4:0) S. Prerequisites: Physics 315; Math. 315; concurrent registration in E.E. 312, Math 316. Staff

Physical properties of crystalline solids, lattice vibration and energy, dielectrics, conduction, band theory, semiconductors, emission magnetism, resonance, and relaxation, conventional magnetic circuits and applications to the saturable reactor and magnetic amplifier.

411 (312). Feedback Concepts. (2:2:0) F. Prerequisite: E.E. 312. Staff

Consideration of basic feedback concepts as applied to engineering systems. Root-locus and log-modulus criteria are presented as useful tools for analysis and design.

- 431, 432 (431, 432). Electrical Energy Conversion.** (4:3:3; 3:2:3) F.S. Prerequisites: E.E. 312, 350. Staff
Single phase and polyphase transformers; energy conversion principles, D.C. and A.C. motors and generators; control system components.
- 441, 442 (441, 442). Electronic Circuits and Devices:** (4:3:3 ea.) F.S. Prerequisites: E.E. 312, 350. Staff
A study of tubes and transistors with applications applied to rectifiers, basic and push-pull amplifiers, oscillators, modulation, detection and feedback.
- 461 (461). Electromagnetics.** (5:5:0) S. Prerequisite: concurrent registration in E.E. 442. Staff
The general transmission line and transmission networks; static and dynamic electric and magnetic fields using classical and vector mathematics; wave guides, antennas, wave propagation, generators.
- 462 (462). Communication Circuits.** (3:3:0) F. Prerequisite: E.E. 461. Staff
Circuits and systems used in television, radar, and radio engineering including microwave hardware and network theory.
- 467 (467, 468). Communications Laboratory.** (2:0:6) F. Prerequisites: E.E. 461; concurrent registration in E.E. 462. Staff
Devoted to building and testing circuits studied and designed in parallel theory courses.

Advanced Undergraduate or Graduate Courses

- 511 (New). Network Synthesis.** (3:3:0) Arr. Prerequisites: E.E. 312, 411. Staff
Designed to present the basic theory for the synthesis of 2-terminal and 4-terminal networks. Various basic approaches are enumerated and applied to ladder and lattice types of filter networks. Insertion loss and phase shift characteristics and means of meeting such requirements.
- 516 (511). Servomechanisms.** (3:3:0) Arr. Prerequisites: E.E. 411 and concurrent registration in E.E. 442, or E.E. 302; Math. 316; C.E. 302 or 304. Jonsson
Theory and application of electrical and electro-mechanical automatic control systems.
- 523 (523). Digital Computer Engineering.** (3:2:3) Arr. Prerequisite: fourth year standing as an engineer. Staff
A study of the logical design and operation of digital computers.
- 528 (521). Analog Computer.** (2:2:0) Arr. Prerequisite: E.E. 302 or 442. Staff
Theory and operation of summing, integrating, and differentiating circuits; function generators and operational amplifiers and their applications to analog computers. Also the application of signal-flow graphs to the analysis and simulation of analog computer systems.
- 531 (531). Power Systems.** (2:2:0) Arr. Prerequisite: E.E. 432. Bartholomew
The analysis and the design of electrical power distribution systems and a study of electrical power distribution system protection.
- 537, 538 (537, 538). Advanced Control Machinery Laboratory.** (1:0:3 ea.) S. Prerequisite: E.E. 462. Staff
Each of these courses constitutes a block of experiments in the area of machinery control systems, machinery characteristics and power distribution methods. Registration is permitted for either course or both courses simultaneously.
- 541 (462). Switching, Timing, and Pulse Circuits.** (4:3:3) F. Prerequisite: E.E. 442. Staff
Passive and active circuits utilizing tubes, transistors, diodes and other devices.

- 567, 568 (567, 568). Advanced Communications and Electronics Laboratory.** (1:0:3 ea.) S. Prerequisite: E.E. 462. Staff

Each of these courses constitutes a block of experiments in the area of U.H.F. techniques, electronic circuits, communication systems, pulse forming networks, transmission lines and filters. Registration is permitted for either course or both courses simultaneously.

- 570 (550). Illumination.** (2:2:0) Arr. Prerequisites: E.E. 312, 441. Monson

Principles and design of artificial illumination for various applications; lamp characteristics; measurements; costs.

- 580 (550). Elements of Acoustics.** (2:2:0) Arr. Prerequisite: fifth year standing in electrical engineering. Monson

Brief course in the fundamentals of sound production, transmission, and reception with an introduction into sound application in public address and other engineering systems.

- 581 (581, 582, 583). Psycho-Acoustics.** (5:5:0) Arr. Prerequisite: E.E. 442.

Staff

Speech and hearing from a communication engineering viewpoint. Synactical analysis of speech and hearing processes are developed. Known experimental facts about speech and hearing are systematically studied and compared with calculated results. Methods of calculating and measuring articulation index of talker-listener pair when using any specified type of communication system.

- 584, 585 (584, 585, 586). Advanced Musical Acoustics.** (2:2:0 ea.) Arr. Prerequisites: Physics 561, 562, or E.E. 580. Staff

Technical study of acoustical behavior of different musical instruments, consideration of sound power output of single instruments and ensembles, stereophonic reproduction of music, possibilities of electronic musical instruments.

- 587 (587). Architectural Acoustics.** (3:3:0) Arr. Prerequisites: Physics 211, 212. Staff

Fundamental behavior of sound in rooms; effects of shape and size upon perception of speech and music; proper use of public address and sound reinforcing systems, sound absorption and insulation properties of different kinds of room walls; kinds and amounts of sound absorption materials to use in sound treatment of rooms and auditoriums.

- 591, 592 (591, 592, 593). Seminar and Field Trips.** (1:0:3 ea.) F.S. Prerequisite: fifth year standing in electrical engineering. Staff

Student and faculty presentation of special topics and subjects of current interest; visits to industries displaying varied types of electrical engineering applications. Participation on the annual field trip is required.

- 598 (594, 595, 596). Special Problem.** (Arr.) F.S. Staff

Registration by permission of professor sponsoring problem. A maximum of two credit hours may be applied toward filling the restricted elective requirement.

Graduate Courses

- 611 (New). Advanced Network Synthesis.** (3:3:0) S. Prerequisite: E.E. 511.

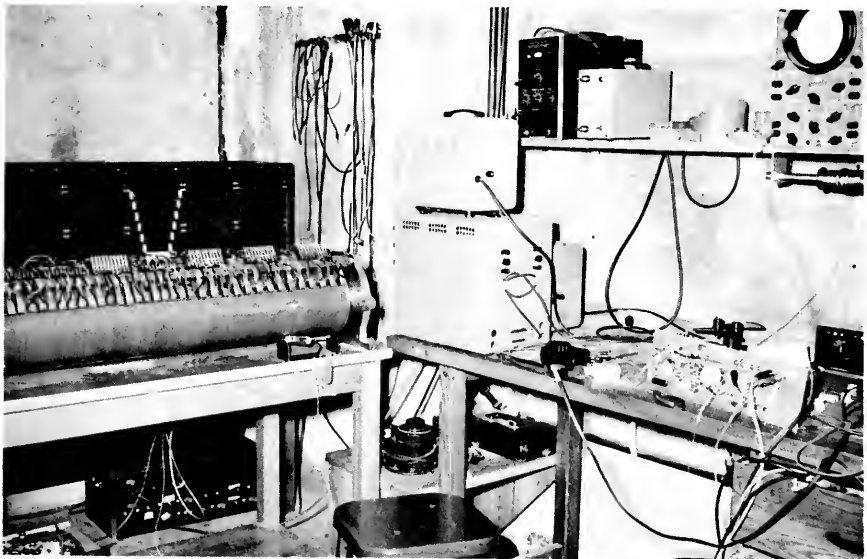
Staff

A continuation of E.E. 511. Active elements are included in the design problem and some recent developments in this field are presented.

- 618 (New). Non-Linear Analysis.** (3:3:0) S. Prerequisite: E.E. 511. Staff

Analytical and topological methods of solving non-linear differential equations are presented covering both mechanical vibrations and electrical oscillations. Analysis in the n dimensional phase plane, Z transforms, and the contributions of such authors as Minorsky and Pontryagin are applied to feedback control systems involving multi-loops containing non-linear elements.

- 620 (New). Information Theory.** (3:3:0) Arr. Prerequisite: E.E. 462 or equivalent. Staff
Power spectrum analysis as applied to communications engineering. Discrete systems, continuous signals, random noise, signal space, and correlation functions are applied to signal propagation and detection.
- 623 (New). Advanced Digital Computers.** (3:3:0) S. Prerequisites: E.E. 523, 541. Bartholomew
Advanced theory and operation of digital computers and their design and application to engineering, scientific, and control problems.
- 641, 642 (New). Advanced Electronic Devices.** (3:3:0 ea.) F.S. Prerequisite: E.E. 541. Staff
A continuation of E.E. 461, 462, and 541. Advanced pulse techniques employing both vacuum tubes and solid state devices are considered. Particular emphasis is given to the effects of temperature, noise, stability problems, compensating means, and D.C. amplification.
- 645 (New). Microwave Devices.** (3:3:0) S. Prerequisite: E.E. 661. Staff
Consideration is given to electronic and solid state devices which have particular application to the propagation, attenuation, modification, and detection of frequencies at and above the S-band.
- 661, 662 (New). Advanced Electromagnetic Fields.** (3:3:0 ea.) F.S. Prerequisite: E.E. 461 or equivalent. Staff
Problems of wave propagation and reflexion. Includes the study of transmission lines, antennas, and radiation.
- 697 (New). Master's Candidate Research.** (1-4:Arr.:Arr.) Arr. Staff
- 698 (New). Readings and Seminar.** (1:1:0) F. Prerequisite: graduate standing. Staff
It is expected that every graduate student will make a literature study and report the results of such readings, outlining his proposed problem, at a seminar with other graduate students and faculty before commencing his research and thesis.
- 699 (New). Thesis for Master's Degree.** (1-4:Arr.:Arr.) Arr. Prerequisite: graduate standing. Staff



English

Professors: B. Clark (chairman, 305 McKay), Christensen, Farnsworth, Hart, Jacobs, Young.

Associate Professors: Britsch, Carroll (emeritus), Cheney, M. Clark, Larson, Monson, Spears, Tanner.

Assistant Professors: Bailey, Brady, Craig, Ellsworth, Evans, Gassman, Grass, McKendrick, Olson, Smart, Thomas, Thomson, Waterstradt, West, Wood.

Instructors: Alder, Arnold, Blair, Cox, Gibbons, Harris, Heuston, Hill, Horton, Howe, Hyde, Hymas, Madsen, McNeil, Mitchell, Morrell, Richards, Ridenhour, Tate, Taylor, Thayer.

Freshman English

(Marshall Craig, director)

Placement Test. All freshmen are required to take an English placement test at the time of registration.

Freshman Composition. To satisfy the University requirement for freshman composition, all students must complete one of the following sequences: English 111 (or 110), 112; or English 115, 116; or English 118. Assignment is made on the basis of performance in the placement test. Students who demonstrate a need for remedial work take English 110, 112; students who demonstrate satisfactory ability take English 111, 112; students who demonstrate exceptional ability take English 115, 116; students in the Honors Program take English 118; students who demonstrate ability below that expected of college freshmen are required to take English 10 and to pass satisfactorily another placement test before registration in freshman composition. All students are required to take freshman composition during both semesters of the freshman year unless they are excused by the director of freshman English.

Scope of Instruction

The English Department offers courses in writing, literature, and the English language as follows: writing, remedial and methodology courses; grammar, word study, and language courses; novel courses; drama courses; comparative and world literature courses; American literature courses; combined American and English literature courses; English literature courses; and single author courses.

Requirements for an English Major

The department requirement for a major is that a student complete at least thirty hours in English beyond freshman composition. The following program is prescribed (plus additional upper division credits to bring the total to thirty hours):

	Hours
A. 251. Fundamentals of Literature for Majors and Minors	3
B. 362. Major Figures of the American Renaissance	3
C. One of the following period courses in American Literature	3
361. American Literature to the Civil War.	
363. American Literature Since the Civil War.	
D. English Period courses or authorized substitutes	10-12
A major is expected to complete classes in four of the five periods of English literature. At least two of the regular period courses (371,	

372, 373, 374, 375) are required; substitutes may be taken as authorized below for one or both of the other two periods:

481 for 371; 541 for 372; 542 for 373; 332 for 375.

- E. 382 or 582. Shakespeare 3
- F. Grammar, history of the English language, or literary criticism 3
- This requirement, especially for those majors who plan to teach English in high school or college, will ordinarily be met by taking English grammar, although either of the other courses listed below may be substituted with the approval of the department chairman or the student's departmental adviser: English 221, 521, 550.
- G. 490. Senior Seminar for English majors 2

The department provides a reading list which the English major should obtain and begin to employ early in his academic program. During the semester prior to his graduation, he will be given a departmental examination based on the reading list, the senior seminar, and his over-all major program.

In addition to the University requirements for graduation and the departmental requirements for a major, each English major is expected to complete sixteen hours in one foreign language.

Requirements for a Teaching Major in English

The requirements for a teaching major in English and for the regular major are the same except that the foreign language requirements may be reduced or waived by the department to meet the special needs of some prospective teachers. Such reduction or waiver would necessitate, of course, the substitution of the Bachelor of Science degree for the degree of Bachelor of Arts.

English is one of the subjects comprising the composite major in language arts designed for prospective teachers.

Requirements for a Minor in English

All students minoring in English are expected to complete English 251, preferably in the sophomore year, and to take at least eleven additional hours of work in English beyond freshman composition (a total of fourteen hours plus freshman English). Teaching minors should consult the College of Education section of this catalog for special course requirements. Non-teaching minors in English should select their English courses in consultation with their major department advisers and with the English Department.

Graduate Work in English

A graduate student may major in either American or English literature; he may minor in a subject outside the English Department or in English literature, American literature, or language. It is assumed that anyone granted a Master of Arts degree in English will be well-grounded in the entire field of English and also well-trained in his graduate major and minor.

Each graduate student should check the departmental requirements for an undergraduate major in English and make up the deficiencies in his undergraduate program insofar as possible.

Among the thirty hours required for a Master of Arts degree, each student must take the following courses:

	Hours
A. 615. Bibliography and Methods of Research	1
B. 525. Old English	3

The following courses must also be included if the student did not have them as an undergraduate:

A. 521. The History of the English Language	3
B. 550. The Criticism and Appreciation of Literature	3

In fulfilling the thesis requirements for a master's degree in English, a student may select any one of the following three options:

- (1) One long thesis on a topic demanding research, criticism, or both;
- (2) Three long papers written in three different areas of English or American language or literature and on topics demanding research, criticism, or both;
- (3) Two long papers written in two different areas of English or American language or literature and on topics demanding research, criticism, or both; and one long paper in the area of imaginative writing.

The work done under any of the above three options is under the direction of the student's advisory committee and must fulfill all of the requirements of form, date of submission, and binding that apply to regular master's theses.

The department stipulates that two hours of "B" grade or better in the series of English 318 and 319, or the equivalent directed experience in writing, be regarded as prerequisite for application to use imaginative writing as part of option (3) listed above. With this application, the student must forward to the graduate committee in English samples of his best writing in order that the committee may determine whether he is qualified to use imaginative writing as part of his thesis requirement.

General Education

A student filling his general education requirement in literature under the humanities and aesthetics requirement may take any literature course for which he has the proper background. See also Humanities 101.

Remedial Courses

- 10 (10). **Preparatory English.** (0:2:0) F.S. Craig, Staff
Drill in essentials of English for all students not prepared for English 110 or 111. Students who complete course must pass placement test before registering for English 111.
- 15 (15). **Remedial English for Juniors.** (0:3 for ½ semester:0) F.S.Su. (Fee \$15.00) Bailey, Staff
- 20 (20). **Remedial Reading.** (0:3:0) F.S. Olson
Non-credit service course utilizing modern clinical methods in developing reading speed and comprehension. (Extensive help in developing reading skills is offered also by the Counseling Service. In addition, a non-credit course in developmental reading is offered through Adult Education and Extension Services.)
- 55, 56 (105, 106, 107). **English for Bilingual Students.** (0:5:0 ea.) F.S. Mitchell, Staff
Service course for foreign students who are learning English. (This course may not be used to apply to an English minor, nor does it satisfy the freshman English requirement.)
- 99 (99). **Problems in Thesis Writing.** (0:2:0) F.S.Su. Britsch, Staff

Freshman Composition Courses

(These courses may not apply to the English minor.)

- 110 (110). **Composition and Reading.** (3:5:0) F.S. Craig, Staff
Same course and credit as English 111, but meets two additional days a week for the first half of the semester. For students who need additional help in freshman composition.
- 111, 112 (111, 112, 113). **Composition and Reading.** (3:3:0 ea.) F.S.Su. Home Study also. Craig, Staff
Course in reading and writing designed for development of skills of effective writing, of critical awareness of the resources of the language, and of

skill in reading rapidly and critically. Review of grammar, readings, weekly themes, and long library paper.

- 115, 116 (115, 116). **Composition and Reading.** (2:2:0 ea.) F.S. Craig, Staff
 Alternate course to English 111, 112 designed for students who show superior ability and training in composition. Students who receive a grade of "C" or lower in English 116 will be required to take English 215 to complete the general education requirement for freshman composition.
- 118 (New). **Composition and Reading.** (3:3:0) F.S. Craig, Staff
 Accelerated course in freshman English for students in the Honors Program. Registration by special permission only.

Lower Division Courses

- 215 (215). **Expository Writing.** (2:2:0) F.S. Prerequisite: English 112, 116, or 118. Hart, Staff
 Basic composition course intended to develop clarity, precision, and style in factual writing.
- 216 (216). **Technical Writing.** (2:2:0) F.S. Prerequisite: English 112, 116, or 118. Bailey, Staff
 Composition course intended to develop accuracy and skill in writing and documenting library or laboratory research reports.
- 218 (218). **Imaginative Writing.** (2:2:0) F.S.Su. Home Study also. Prerequisite: English 112, 116, or 118. Larson, Staff
 Composition course intended to develop expressive skill and power through writing of short stories, poems, dramas, and/or informal essays.
- 221 (221). **English Grammar.** (3:3:0) F.S.Su. Home Study also. Prerequisite: English 112, 116, or 118. Young, Staff
- 225 (225). **Vocabulary Building.** (2:2:0) F.S.Su. Home Study also. Young, Staff
 Service course intended to develop an effective vocabulary through study of prefixes, suffixes, and roots.
- 226 (226). **Semantics.** (1:1:0) F. McKendrick, Thomas
 Study of function of words in written and spoken communication.
- 250 (250). **Introduction to Literature.** (3:3:0) F.S.Su. Home Study also. (G-HA) Farnsworth, Staff
 Study of various types of literature—short story and novel, poetry, essay, biography, and drama—with a critical reading and analysis of significant examples of each type.
- 251 (251). **Fundamentals of Literature for Majors and Minors.** (3:3:0) F.S.Su. Home Study also. Prerequisite: English 112, 116, or 118. B. Clark, Staff
 Required of all English majors and minors and recommended for humanities majors and for students in the Honors Program.
 Basic course in literary appreciation and criticism, literary terminology, and writing. Should be taken in the sophomore year.
- 252 (252). **Introduction to Poetry.** (2:2:0) F.S. (G-HA) Evans, Hart, Larson
 Appreciation course in poetry, emphasizing critical reading and analysis of significant poems of various types.
- 253 (253). **Introduction to Drama.** (2:2:0) F.S. (G-HA) Monson, Tanner, Waterstradt
 Appreciation course in drama, with attention given to various forms—tragedy, comedy, farce, melodrama, and modern problem play—and with a critical reading of famous examples of each type.
- 254 (254). **Introduction to Biography.** (2:2:0) S. (G-HA) Young
 Study of short biographies of some famous statesmen, patriots, adventurers, scientists, inventors, painters, writers, and others, including Hitler,

Napoleon III, George III, Edison, Wilson, Jefferson, Lincoln, John Brown, Goethe, Gauguin, the Curies, and Dolly Madison.

- 256x (256x).** *Classic Myths.* (3) Home Study only. (G-HA) Carroll
This course is planned to acquaint the student with the great characters and stories in classical mythology and to study their relationship to literature and their bearing upon other parts of modern culture and life.
- 260 (261, 262, 263).** *Masterpieces of American Literature.* (3:3:0) F.S.Su. Thomson, Staff
Home Study also. (G-HA)
Selected readings in American literature from colonial times to the present.
- 270 (271, 272, 273).** *Masterpieces of English Literature.* (3:3:0) F.S.Su. Home Study also. (G-HA) Tanner, Staff
Selected readings in English literature from medieval times to the present.
- 282 (282).** *Shakespeare.* (2:2:0) F.S.Su. Home Study also. (G-HA) Young, Staff
Appreciation course in Shakespeare, with an interpretive reading of eight of his great dramas.

Upper Division Courses

- 318, 319 (318, 319, 320).** *Advanced Imaginative Writing.* (2:2:0 ea.) F.S. 318—Home Study also. Prerequisite: English 218 or special permission of the instructor or the department chairman. Larson, Staff
Composition course intended to give experienced student writers opportunity to further develop their skills in writing poetry, fiction, and drama.
- 325 (New).** *Introduction to Linguistics.* (2:2:0) S. Blair
See Linguistics 325, Language Department.)
- 331 (331).** *The English Novel to 1832.* (2:2:0) F. Home Study also. (G-HA) B. Clark, Gassman
English prose fiction to beginning of Victorian period, with emphasis on Defoe, Richardson, Fielding, Smollett, Sterne, Scott, and Austen.
- 332 (332).** *The English Novel from Dickens to Hardy.* (2:2:0) S. Home Study also. (G-HA) Brady, B. Clark
English novel from 1832 to 1900, with emphasis on Dickens, Thackeray, Trollope, the Brontës, George Eliot, and Hardy.
- 333 (333).** *The Modern English Novel.* (2:2:0) F. Home Study also. (G-HA) B. Clark
English novel from 1890 to the present, with emphasis on Hardy, Conrad, Bennett, Galsworthy, Lawrence, Maugham, Joyce, Woolf, and several contemporary novelists.
- 335 (335).** *The American Novel to Dreiser.* (2:2:0) F. Home Study also. (G-HA) Jacobs, Olson
Nineteenth century American novelists, with emphasis on Cooper, Hawthorne, Melville, Twain, Howells, and James.
- 336 (336).** *The Modern American Novel.* (2:2:0) S. Home Study also. (G-HA) M. Clark, Jacobs
Twentieth century American novelists, with emphasis on Dreiser, Cather, Lewis, Hemingway, Faulkner, Steinbeck, Wolfe, and Fitzgerald.
- 338 (New).** *The European Novel.* (3:3:0) F. (G-HA) M. Clark
The works of the principal European novelists, including Balzac, Stendhal, Flaubert, Zola, Gogol, Turgenyev, Dostoevsky, Tolstoy, Mann, and others.
- 345 (345).** *The Spirit of Tragedy in Literature.* (3:3:0) S. (G-HA) Christensen
Study of tragedy as experienced in drama from the Greeks to the present time.

- 346x (346x). Greek Life and Drama.** (2) Home Study only. (G-HA) Carroll
Ancient Greek mythology and civilization and some of the dramas by Aeschylus, Sophocles, Euripides, and Aristophanes.
- 350 (350). The Bible as Literature.** (2:2:0) F.S.Su. Home Study also. (G-HA)
Thomas, Staff
- 355 (356). World Classics.** (3:3:0) F.S. (G-HA) Britsch, Spears, Staff
Greek and Roman epic and drama in translation, with emphasis on works of Homer, Aeschylus, Sophocles, Euripides, and Virgil.
- 356 (357). World Classics.** (3:3:0) F.S. (G-HA) Britsch, Spears, Staff
European classics of the Middle Ages and Renaissance in translation, with emphasis on the Divine Comedy.
- 357 (358). World Classics.** (3:3:0) F.S. (G-HA) Britsch, Spears, Staff
European masterpieces of neoclassicism and romanticism in translation, including works of Moliere, Racine, Voltaire, and Goethe.
- 358 (New). World Classics.** (3:3:0) F.S. (G-HA) Britsch, Spears, Staff
European masterpieces of realism, naturalism, and symbolism in translation, including works of Balzac, Flaubert, Dostoevsky, Tolstoy, Ibsen, Gide, Mann, and Proust.
- 359 (359). The Short Story.** (2:2:0) F.S.Su. Home Study also. (G-HA)
Cheney, B. Clark, Staff
Critical study of selected great short stories—American, English, and European—with emphasis on 20th century stories.
- 361 (361). Early American Literature.** (3:3:0) F. (G-HA)
Jacobs, Thomas, Thomson
American Literature from beginning to Civil War, with emphasis on Colonial Puritanism, the Enlightenment, Nationalism and Romanticism. (Does not include authors studied in English 362.)
- 362 (362). American Renaissance.** (3:3:0) F.S.Su. (G-HA)
Jacobs, Thomas, Staff
Readings in major figures of the American Renaissance: Emerson, Hawthorne, Thoreau, Whitman, and Melville.
- 363 (363). Later American Literature.** (3:3:0) S.Su. (G-HA)
M. Clark, Jacobs, Thomas, Thomson
American literature from Civil War to present, with emphasis on realism, local color, and naturalism.
- 366 (366). Modern Poetry.** (2:2:0) F. Home Study also. (G-HA) Hart, Larson
Major English and American poets of the 20th century.
- 367 (367). English and American Folk Poetry.** (2:2:0) S. (G-HA) Cheney
English and Scottish ballads and American folk songs.
- 371 (371). English Literature to 1500: the Medieval Period.** (3:3:0) F. (G-HA)
Christensen
English literature from beginnings to 1500, with emphasis on its relationship to other European literatures.
- 372 (372). English Literature from 1500 to 1660: the Renaissance Period.** (3:3:0) S. (G-HA) Young
English dramatic and non-dramatic poetry and English prose of Renaissance period, including Milton but excluding Shakespeare.
- 373 (373). English Literature from 1660 to 1780: the Neo-Classical Period.** (3:3:0) F. (G-HA) Hart, Monson
English literature from Restoration through Augustan Age of Reason to beginnings of Romanticism, including works of Dryden, DeFoe, Swift, Fielding, Pope, and Johnson.

- 374 (374). English Literature from 1780 to 1832: the Romantic Period.** (3:3:0) F.S.Su. Home Study also. (G-HA) Cheney, B. Clark
English literature of Age of Romanticism, including works of Blake, Wordsworth, Coleridge, Scott, Lamb, Byron, Shelley, and Keats.
- 375 (375). English Literature from 1832 to 1900: the Victorian Period.** (3:3:0) F.S.Su. (G-HA) Britsch, B. Clark, Farnsworth, Hart
English literature of middle and later 19th century, including works of Carlyle, Ruskin, Dickens, Browning, Tennyson, Arnold, the Rossettis, Morris, Swinburne, Meredith, and Hardy.
- 376 (376). Twentieth Century English Literature.** (2:2:0) S. (G-HA) B. Clark, Hart, Larson
Major English poets, dramatists, and fiction writers of our century.
- 382 (382). Shakespeare.** (3:3:0) F.S. (G-HA) Christensen, Young
Five or six major plays studied intensively.
- 385x (385x). Tennyson.** (2) Home Study only. Carroll
The chief writings of Tennyson are studied, along with background and critical materials.
- 386x (386x). Browning.** (2) Home Study only. Carroll
Browning's major poems are studied, along with the influences of the poet's time and critical writings concerning them.
- 476x (476x). Victorian Poetry.** (2) Home Study only. Carroll
A study of the poetry of the major writers of the Victorian Period, such as Browning, Tennyson, Arnold, Swinburne, etc.
- 477x (477x). Victorian Prose.** (2) Home Study only. Carroll
The writings of outstanding essayists, novelists, and dramatists of the Victorian Period are considered.
- 481 (481). Chaucer.** (3:3:0) F. (G-HA) Christensen
- 483 (483). Milton.** (2:2:0) S. (G-HA) Christensen
- 487 (487). Matthew Arnold.** (2:2:0) F. (G-HA) Christensen
- 490 (490). Senior Seminar for English Majors.** (2:2:0) F.S.Su. Staff
- 495, 496 (495, 496, 497). Individual Readings.** (1-2:2-8:0 ea.) F.S.Su. Staff
Available only to English majors and students on foreign tours. English majors in residence will be limited to a maximum cumulative total of 2 credit hours, students on tour to a maximum total of 4 credit hours.

Advanced Undergraduate or Graduate Courses

- 500-509 (400-409). Eminent American Writers.** (1:1:0 ea.) F.S. M. Clark, Staff
Different writers are treated each year in this series.
- 510-519 (410-419). Eminent English Writers.** (1:1:0 ea.) F.S. McKendrick, Staff
Different writers are treated each year in this series.
- 521 (521). History of the English Language.** (3:3:0) S. Christensen, Monson
Course descriptive of the English language in various stages of its development, with background of related historical events.
- 525 (525). Old English.** (3:3:0) F. Undergraduate prerequisite: approval of instructor. Young
- 526 (526). Middle English.** (2:2:0) S. Undergraduate prerequisite: approval of instructor. Christensen, Monson

- 541 (541). **English Drama to 1642.** (2:2:0) F. Young
Religious drama of the Middle Ages, court plays, and popular drama of the Renaissance, excluding Shakespeare.
- 542 (542). **Restoration and Eighteenth Century Drama.** (2:2:0) S. Gassman
English drama from 1660 to 1800, with emphasis on high comedy, sentimental comedy, and heroic tragedy.
- 543 (543). **Modern English and American Drama.** (2:2:0) F. Tanner
Major English and American dramatists since 1890.
- 550 (550). **The Criticism and Appreciation of Literature.** (3:3:0) S. Hart, Thomas
Study of critical theories and standards of value.
- 582 (New). **Extended Readings in Shakespeare.** (3:3:0) F.S. Young
Extensive study of the body of Shakespeare's works.

English Education

- 377 (377). **Secondary Teaching Procedures.** (3:3:3) F.S. Prerequisite: Instruction 301 or E.R.S. 305 or equivalent. West
For course description and fee see Instruction 377.
- 479 (479). **Secondary Student Teaching.** (4-8:1:20-30) F.S. Prerequisite: English Education 377. West
For course description and fee see Instruction 479.

Graduate Courses

- 615 (615). **Bibliography and Methods of Research.** (1:1:0) F.Su. Larson
- 625 (625). **Beowulf.** (2:2:0) S. McKendrick
- 631 (631). **The English Novel.** (2:2:0) F. B. Clark
- 635 (635). **The American Novel.** (2:2:0) S. M. Clark, Smart
- 641 (641). **The English Drama.** (2:2:0) S. Craig
- 661 (661). **Colonialism and Puritanism in American Literature.** (2:2:0) S. Jacobs
- 662 (662). **Romanticism in American Literature.** (2:2:0) F. Thomas
- 664 (664). **Realism and Naturalism in American Literature.** (2:2:0) F. Jacobs, Thomas, Thomson
- 671 (671). **The Medieval Period in English Literature.** (2:2:0) S. Christensen
- 672 (672). **The Renaissance in English Literature.** (2:2:0) F. Larson, Young
- 673 (673). **Neo-Classicism in English Literature.** (2:2:0) S. Hart
- 674 (674). **Romanticism in English Literature.** (2:2:0) F. Cheney, B. Clark
- 675 (675). **The Victorian Age in English Literature.** (2:2:0) S. B. Clark, Farnsworth
- 682 (682). **Shakespeare.** (2:2:0) F. Hart
- 691 (New). **Research in Folklore.** (2:2:0) S. Cheney
Directed study and research in folk tales, folk poetry, etc., especially as they are related to the Mormon heritage and tradition.
- 695 (695). **Individual Readings in English.** (1-2:1-4:0) F.S.Su. Staff
- 699 (699). **Thesis for Master's Degree.** (Arr.) F.S.Su. Staff

Food and Nutrition

Professors: Morris (chairman, 2 218 SFLC), Trunnell.

Associate Professor: Bennion.

Instructors: Brasher, Bryner, Mo nsen, Sovine.

The Department of Food and Nutrition is organized to help the student understand the basic principles which underlie the role played by food in the maintenance of optimum health and the preparation of food of high culinary and nutritive quality. Application of principles is made through the planning, preparation, serving, and evaluation of attractive and nourishing family meals and through the preparation and evaluation of single items under experimentally controlled conditions. The selection of foods to meet human nutritional needs is justified theoretically and practically.

Courses in this department provide background for training in such professional fields as hospital dietetics, public health nutrition, school lunch or restaurant administration, test kitchen work, food demonstration, college teaching, and research.

The courses in this department are planned to be of value to both men and women.

For majors in food and nutrition a minimum of 24 credit hours in the department is required. For graduation from the College of Family Living these hours must be combined with enough credits in the college to total 35 hours. Included in these 35 hours shall be: a total of 12 hours from the following departments with at least three hours being taken from each department: clothing and textiles, housing and home management, and human development and family relationships.

Suggested Program for Majors

Freshman Year		Sophomore Year	
	Hours		Hours
Religion*	4	Religion*	4
English* (determined by placement test)	6	Chemistry 284*	4
Physical education and health*	3	Physics 100*	3
Chemistry 101, 102*	10	Bacteriology 331*	4
Psychology 111*	3	Zoology 261*	4
Zoology 105*	3	Art*	2
Homemaking Education 91	0	Economics 101*	3
Food and Nutrition 110**	2	H.D.F.R. 210*	3
		Food and Nutrition 264, 265*	4
		Electives	3-4
Junior Year		Senior Year	
	Hours		Hours
Religion*	4	Religion	4
History 170*	3	Humanities and aesthetics	2-3
Humanities and aesthetics	2-3	E.R.S. 304	2
Housing and Home Management 235	3	Family living (courses toward 35 credit-hour requirement)	4-5
Family living (courses toward 35 credit-hour requirement)	2-3	Food and Nutrition	
Food and Nutrition 335, 340, 345*	10	470, 564, 590*	8
Electives	6-8	Electives	8-9

*Required.

**Food and Nutrition 110 need not be taken if the student passes a qualifying examination given by the Department of Food and Nutrition.

Students preparing for a dietetic internship must elect Food and Nutrition 455 and 472; Accounting 101; E.R.S. 304; and Psychology 330.

A postgraduate internship of twelve months is required for positions in hospital dietetics. Certain centers have been approved by the American Dietetic Association to give internship training. A list of these centers, as printed by the American Dietetic Association, is available in the office of the department chairman.

Students preparing for positions in business should elect Journalism 101, Speech 101 or 102, and Instruction 406.

Additional courses recommended for students in food and nutrition are Chemistry 220, Housing and Home Management 350, Bacteriology 361, and Instruction 406.

Lower Division Courses

- 110 (110). Introductory Food and Nutrition.** (2:1:2) F.S. Home Study also. Staff
Open to all students. Designed to develop an understanding of food in relation to health. Accepted techniques of food preparation for maximum retention of nutritive value are taught through laboratory experiences.
- 115 (115). Essentials of Nutrition.** (2:2:0) F.S. Home Study also. For non-majors. Staff
Basic concepts of human nutrition and their application in achievement and maintenance of optimum health.
- 210 (210). Variations in Food Preparation.** (2:0:4) S. Prerequisite: Food and Nutrition 110. Staff
Different ways of preparing and using a wide variety of foods. Preparation of some foreign dishes.
- 235 (235). Meal Planning and Serving.** (3:1:5) S. Home Study also. Prerequisite: Food and Nutrition 110. Majors in food and nutrition and students planning to teach homemaking should register for Food and Nutrition 340. Fee \$4.50. Bryner
Problems involved in planning and serving family meals with emphasis on buying of food. Experience with various types of meal service on different incomes.
- 245 (245). Nutrition of Mother and Child.** (2:2:0) F. Monsen
Open to all students. The nutritional needs of expectant mothers, infants, and children, and the proper choice of food to meet these needs.
- 255 (255, 256). Fundamentals of Nutrition.** (3:2:2) F.S. Prerequisites: Food and Nutrition 110; Zoology 105 or 261; Chemistry 102. For non-majors. Majors should elect Food and Nutrition 335. Monsen
Basic concepts of human nutrition at all ages. Achievement and maintenance of optimum health for all family members.
- 264 (264). Introduction to Experimental Cookery.** (2:2:0) F.S. Prerequisites: Food and Nutrition 110; Chemistry 102; Bacteriology 121 or 331; concurrent registration in Food and Nutrition 265. Bennion
- 265 (265, 330). Introduction to Experimental Cookery, Laboratory.** (2:0:4) F. S. Prerequisite: concurrent registration in Food and Nutrition 264. Staff

Upper Division Courses

- 335 (335, 336). Nutrition.** (5:4:2) F. Prerequisites: Food and Nutrition 110; Zoology 261; and Chemistry 284 or equivalent. Morris

A detailed study of the essential nutrients and their functions in nutrition; how to determine and satisfy the food needs of the normal individual.

- 340 (340). Meal Management.** (3:1:6) F.S. Prerequisites: Economics 101; Food and Nutrition 255 or 335; and 264. Fee \$4.50. Bryner
Organization and management of time, energy, and finances in planning and preparing family meals. Experience in use of various types of service.
- 345 (345). Child Nutrition.** (2:2:0) S. Prerequisite: Food and Nutrition 255 or 335. Monsen
Application of principles of nutrition to feeding of infants, children, and expectant mothers.
- 370 (370). Food Management for Large Groups.** (2:1:3) F. Prerequisite: Food and Nutrition 110 or equivalent. Sovine
Open to all students. Practical experience in preparation of food for community groups. Emphasis on organization and management and adaptation to available facilities.
- 455 (455). Nutrition in Disease.** (3:2:2) S. Prerequisite: Food and Nutrition 335. Morris
The role of nutrition in times of stress and special need and as a therapeutic aid in treatment of disease.
- 470 (470). Quantity Food Preparation.** (3:2:4) F. Prerequisites: Food and Nutrition 264 and 340. Sovine
Practical experience in menu planning, food purchasing and preparation for large groups. Use, operation, and maintenance of equipment.
- 472 (472, 474). Food Management in Institutions.** (3:1:8) S. Prerequisite: Food and Nutrition 470. Sovine
Management of financial and personnel problems; planning of institution kitchens; and selection of equipment. Field trips, observations, and practical experience.

Advanced Undergraduate or Graduate Courses

- 535 (535). Advanced Human Nutrition.** (2:2:0) S. Prerequisite: Food and Nutrition 335 or equivalent. Morris
- 564 (564). Experimental Cookery.** (3:2:3) F. Prerequisites: Food and Nutrition 264; Chemistry 284. Bennion
- 566 (566, 568). Chemistry Applied to Food.** (2:2:0) Arr. Bennion
Understanding quality in prepared food. Composition of food and practices followed in preparation are related to the colloidal nature of food and to chemical and bio-chemical reactions involved.
- 590 (590). Readings in Food and Nutrition.** (2:2:0) F. Prerequisite: 10 credit hours in food and nutrition or consent of instructor. Staff
- 594 (594). Special Problems in Food.** (1-2:0:3-6) S. Prerequisite: permission of instructor and chairman of department. Designed for students who have completed at least 12 hours in food and nutrition including Food and Nutrition 590. Staff
Independent study of a special problem in food under direction of an instructor.
- 595 (595). Special Problems in Nutrition.** (1-2:0:3-6) S. Prerequisite: permission of instructor and chairman of department. Designed for students who have completed at least 12 hours in food and nutrition including Food and Nutrition 590. Staff
Independent study of a special problem in nutrition under direction of an instructor.

Graduate Courses

- 645** (630). **Advanced Child Nutrition.** (2:2:0) Arr. Prerequisites: Food and Nutrition 335 and 345 or equivalent. Morris
- 664** (644, 646). **Science and Experimental Foods.** (3:2:3) Arr. Prerequisite: Food and Nutrition 564. Bennion
Protein foods; simple colloidal systems; gels, emulsions, and foams.
- 666** (646, 648). **Science and Experimental Foods.** (3:2:3) Arr. Prerequisite: Food and Nutrition 564. Bennion
Batters, doughs, and starch-thickened products.
- 672** (622). **Recent Advances in Foods.** (2:2:0) Arr. Prerequisite: Food and Nutrition 564 or equivalent. Bennion
- 675** (625). **Recent Advances in Nutrition.** (2:2:0) Arr. Prerequisite: Food and Nutrition 535 or equivalent. Staff
- 690** (696). **Seminar in Food.** (1-2:1-2:0) F. Staff
- 691** (697). **Seminar in Nutrition.** (1-2:1-2:0) S. Staff
- 694** (694). **Independent Project in Food and Nutrition.** (1-3:0:3-9) Arr. Prerequisite: Food and Nutrition 695 or 696. Staff
- 695** (684). **Methods of Research in Nutrition.** (2:1:4) Arr. Prerequisite: Food and Nutrition 535. Staff
- 696** (685). **Methods of Research in Foods.** (2:1:4) Arr. Prerequisite: Food and Nutrition 564. Staff
- 699** (699). **Thesis for Master's Degree.** (2-4:2-4:0) Arr. Staff



Forum Assemblies

Herald R. Clark, in charge (154 JK)

(An inter-departmental area only)

In 1958 Brigham Young University inaugurated a weekly series known as forum assemblies. The purpose of the assemblies is to bring to our campus men and women of recognized pre-eminence in their chosen fields and to hear their stimulating messages. Among those invited to appear in 1960-61 were Will Rogers, Jr., Stewart Alsop, Dr. Edward Keller, and others of similar stature.

One-half hour credit per semester or one hour per year may be earned by registering for and attending a minimum of eleven forums each semester. Attendance is based on the honor system. Forum Assembly credit may be carried above the normal class load. Grading, on a "pass" basis, will have no effect on grade-point average. Students must register for forum assemblies on the basis of their standing as freshmen, sophomores, juniors, or seniors. All students are encouraged to attend these provocative, intellectually rewarding assemblies.

Lower Division Courses

101, 102. Lectures in Contemporary Civilization. ($\frac{1}{2}$:1:0 ea.) F.S.
Forum Lecturers

Open to freshmen students only.

201, 202. Lectures in Contemporary Civilization. ($\frac{1}{2}$:1:0 ea.) F.S.
Forum Lecturers

Open to sophomore students only.

Upper Division Courses

301, 302. Lectures in Contemporary Civilization. ($\frac{1}{2}$:1:0 ea.) F.S.
Forum Lecturers

Open to junior students only.

401, 402. Lectures in Contemporary Civilization. ($\frac{1}{2}$:1:0 ea.) F.S.
Forum Lecturers

Open to senior students only.



Geography

Assistant Professors: Layton (chairman, 328 JK), Millett, Tuttle.

Instructor: Aamodt.

The Department of Geography serves three classes of students: (1) professional major students, (2) non-professional major students who wish to build a broad cultural education around a central interest in geography, and (3) students majoring in other fields who desire some acquaintance with the contribution of geography to the understanding of the world and its problems.

For majors, the department provides background for work in the following general fields of specialization: area analysis, cartography, and teaching.

The following courses are required for a major:

Lower division: Geography 101, 211, 231; Geology 101 and 102 or 111.

Upper division: Geography 351, 401, 504, 598; at least two of the following regional courses: 455, 460, 470, 475, 480; at least two of the following systematic courses: 441, 522, 533; and electives in geography to make a total of 30 hours.

Lower Division Courses

- 101 (105). Introduction to Geography.** (3:3:0) F.S. Home Study also. (G-SS) Millett
A general survey of the distribution of, and the processes concerned with, the different factors of man's natural environment, i.e., landforms, climate, soils, natural resources.
- 120 (110). Geography and World Affairs.** (3:3:0) F.S. Home Study also. (G-SS) Tuttle
A survey of the world stressing the human and economic geography of major political regions.
- 153 (121). Geography of Utah.** (2:2:0) S. Layton
The distribution of climates, landforms, vegetation, agriculture, mining, manufacturing, and service industries as related to present population and future growth patterns in Utah.
- 211 (275). Introduction to Maps and Air Photos.** (2:1:2) F. Layton
Maps and air photos as tools for teaching and research. Sources of maps and photos and practice in their use.
- 231 (223). Economic Geography.** (3:3:0) F.S. Home Study also. (G-SS) Layton
A brief survey of the world's resource pattern. Origin, importance, and movement of major agricultural and mineral commodities in world affairs.

Upper Division Courses

- 305 (305). Physiography of North America.** (2:2:0) S. Prerequisite: consent of instructor. Tuttle
The characteristics of the landforms and the processes which brought them into being.
- 312 (303). Map Drawing.** (2:0:4) S. Layton
Maps as a means of recording information. Methods of illustrating various types of data and preparation of maps for reproduction and publication.

- 332 (360). World Mineral Resources.** (2:2:0) S. Prerequisite: Geography 231. Layton
 Geography of reserves, production, and uses of the world's major metallic and non-metallic minerals.
- 351 (310). North America.** (3:3:0) F.S. Home Study also. (G-SS) Tuttle
 A study of the United States and Canada including climates, landforms, natural resources, agriculture, and industries.
- 401 (401). Geography of Climates.** (2:2:0) F. Offered 1961-62 and alternate years. Prerequisite: Geography 101 or consent of instructor. Tuttle
 The elements, controls, distribution, and classification of the climates of the earth.
- 441 (584). Political Geography.** (3:3:0) F.S. (G-SS) Fisher
 The physical, political, economic, and social elements of political geography and an analysis of the power structure of the world's major powers.
- 455 (420). Latin America.** (3:3:0) F. Home Study also. Layton
 An analysis of the physical and cultural geography of the nations of South and Middle America.
- 460 (430). Europe.** (3:3:0) S. Home Study also. (G-SS) Staff
 The land and how man is utilizing the natural and human resources of Europe. Emphasis on human geography of major political regions.
- 470 (440). Asia.** (3:3:0) S. Prerequisite: consent of instructor. Tuttle
 Geography of one-third of the earth and two-thirds of its people. Man's use of his natural environment.
- 475 (450). Africa.** (3:3:0) F. Staff
 Systematic regional treatment of physical, economic, political, and cultural geography of Africa.
- 480 (460). Australia and New Zealand.** (2:2:0) F. Offered 1962-63 and alternate years. Staff
 Physical and cultural geography of Australia, New Zealand, and Tasmania.
- 490, 491 (490, 491, 492). Readings.** (1:1:0) F.S. For majors only. Staff
- 493 (495). Special Problems.** (1-2:1-2:0) F.S. For majors only. Staff
- Advanced Undergraduate or Graduate Courses**
- 504 (570). Geographic Field Techniques.** (2:1:2) S. For majors only. Staff
- 522 (565). Urban Geography.** (2:2:0) F. Layton
 Distribution of urban areas, their development, internal land use patterns, and functions in the world's economy.
- 533 (560). Industrial Geography.** (3:3:0) S. Prerequisite: Geography 231. Layton
 A systematic analysis of location patterns of major industries in the United States; raw materials, power resources, and other factors in industrial location.
- 552 (611). United States.** (2:2:0) S. Offered 1961-62 and alternate years. Prerequisite: Geography 351. Tuttle
 A concentrated study of various phases of the geography of the U. S. Considerable research and reporting by individual students is expected.
- 556 (621). South America.** (2:2:0) S. Offered 1961-62 and alternate years. Prerequisite: Geography 455. Layton
 Physical and cultural landscapes of geographic regions of South America.
- 557 (622). Caribbean Area.** (2:2:0) Offered 1962-63 and alternate years. Prerequisite: Geography 455. Layton

- 561 (531). Western Europe and the Mediterranean.** (2:2:0) S. Prerequisite: Geography 460. Staff
A comprehensive study of the systematic and regional geography of non-Communist Europe.
- 562 (532). U.S.S.R. and Its Satellites.** (2:2:0) F. Prerequisite: Geography 460 or 470 or consent of instructor. Tuttle
A concentrated study of the physical features, resources, agriculture, industries, and distribution of peoples.
- 571 (641). Orient.** (2:2:0) F. Offered 1962-63 and alternate years. Prerequisite: Geography 470. Staff
A comprehensive study of the systematic and regional geography of the Orient.
- 585 (580). Geography of Underdeveloped Areas.** (2:2:0) S. Prerequisite: consent of instructor. Staff
Physical, economic, and human geography as it affects the world's underdeveloped areas with emphasis on future development possibilities.
- 598 (598). Seminar.** (1:1:0) Arr. Staff

This course also carries geography credit:

History 585. Historical Geography of the United States. (2:2:0)

Graduate Courses

- 601 (New). Physical Geography.** (2:1:2) F. Staff
Required of all graduate students.
- 620 (New). Cultural Geography.** (2:1:2) S. Staff
Required of all graduate students.
- 690, 691 (690, 691, 692). Readings.** (1:1:0) F.S. Staff
- 695 (695). Special Problems.** (1-2:1-2:0) F.S. Staff
- 696, 697 (605, 606, 607). Research.** (2:2:0) F.S. Staff
- 698 (698). Graduate Seminar.** (1:1:0) Arr. Staff
Required of all graduate students.
- 699 (699). Thesis for Master's Degree.** (1-4:1-4:0) F.S. Staff



Geology and Geological Engineering Science

Professors: Bullock (chairman, 291 ESC), Bissell, Hansen, Hintze.

Associate Professor: Rigby.

Assistant Professors: Bushman, Clark, Phillips.

Instructors: Brimhall, Warner.

Curator: Owens.

It is expected that a student intending to major in geology shall have met the general entrance requirements of the College of Physical and Engineering Sciences. All students majoring in geology are required to complete the following courses (or their equivalents at another institution) to obtain the bachelor's degree: Geology 111, 112, 251, 252, 311, 312, 313, 410, 460, 470, 480, and 492. No more than two of these required geology courses can be taken during any one semester. Chemistry 111, 112, 113, Mathematics 111, 112, and Physics 201, 202, or 211, 213 are required of all geology majors. In partially fulfilling the group requirements of the University, this department requires: Anthropology 241, Archaeology 310, Botany 105, Geography 231, language—10 hours, and Zoology 105.

Mathematics 213 and 214 are required of all students majoring in geological engineering, geophysics, or geochemistry, and are strongly recommended for all geology majors. Requirements for students intending to teach in elementary and secondary schools are listed under composite majors in mathematics and physical science under the College of Education.

The Department of Geology offers training for the master's degree and the Doctor of Philosophy, with specialization in various fields of geology. The graduate student is urged to acquire a broad foundation in geology and to secure adequate training before he concentrates on a chosen branch of the subject. To this end certain fundamental course work is recommended for all students. The course offerings are sufficiently varied and complete so all students may select courses according to their needs and inclinations in consultation with their advisers.

It is expected that graduate students will meet all the general requirements for advanced degrees as outlined by the Graduate School. The responsibility of meeting these requirements rests with the student. Thesis work, intended to be investigative in character, must be of professional caliber. It is expected that the candidate for an advanced degree will make original contributions, develop new ideas, and complete a thesis or dissertation suitable for publication.

The graduate program of the Department of Geology offers instruction in three broad divisions of geology, with the following course offerings in each division: (1) economic geology and mineralogy—Geology 520, 540, 545, 551, 621, 641, 646, 653, 655, 661, and 662; (2) stratigraphy, sedimentation, paleontology—Geology 574, 575, 576, 580, 581, 670, 671, 678, 680, 681, 682, 684, 685; and (3) structural, field, and dynamic geology—Geology 507, 511, 512, 530, 535, 610, and 615.

A student may select any one of the three divisions for a major. He may elect one or both of the remaining divisions for his minor(s). Geology 507, 512, 551 are required of all graduate students. Geology 696, 698, 699, and 799 are variable credit courses commensurate with work completed in each of these areas. A student should not register for Geology 699 or 799 until he has essentially completed his research and is prepared to write his thesis or dissertation.

Master's Degree. (For general requirements see Graduate School catalog.) Requirements for a master's degree in geology include: (1) at least sixteen hours of formal course work in the major field and at least ten hours of formal course work in one or two minor fields; (2) a written exploratory examination at the beginning of the graduate program; (3) a comprehensive oral examination on the

graduate course work prior to his thesis defense; (4) a thesis embodying the results of research under a faculty member's supervision; and (5) a final oral examination on the research thesis.

Doctor of Philosophy Degree. (For general requirements see Graduate School catalog.) Requirements for a Doctor of Philosophy degree in geology include: (1) a minimum of thirty hours of formal course work in the major field and a minimum of fifteen hours of formal course work in each of two minor fields (one of the minors may be in a related field outside of the Department of Geology in which upper division and graduate courses will be acceptable); (2) one degree or one year of acceptable graduate study at another institution; (3) a comprehensive examination after sixty hours of graduate work and at least one academic year prior to graduation; (4) dissertation embodying the results of original research; and (5) defense of his dissertation before a formally appointed committee at the close of his final year of study.

Required Curriculum for Geology Majors

Freshman Year		Junior Year	
F	S	F	S
History 170	3	Archaeology 310	3
English 111, 112	3	Chemistry 113	3
Geology 111, 112	4	Geography 231	3
Health 130	2	Geology 311, 312	4
Mathematics 111, 112 ..	5	Geology 313	3
Physical education	$\frac{1}{2}$	Geology 492	1
Religion	2	Physics 201, 202 or	
		211, 213	4
		Religion (upper div.) ...	2
		Elective (upper div.) ...	1
Total Hours	16 $\frac{1}{2}$	Total Hours	16
			15
Sophomore Year		Summer School	
F	S	Geology 410 (Summer	
Anthropology 241	3	field camp)	4 hours
Botany 105	3	Senior Year	
Chemistry 111, 112	4	F	S
Geology 251, 252	4	Geology 470, 460	3
Physical education	$\frac{1}{2}$	Geology 480	3
Religion (upper div.) ...	2	Language	5
Zoology 105	3	Literature (upper div.) ..	2
Electives	3	Religion (upper div.) ...	2
		Electives (upper div.) ..	4
Total Hours	16 $\frac{1}{2}$	Total Hours	16

Required Curriculum for Geological Engineering

(Also pre-geochemistry, geophysics, and leading to a B.S. degree in geology)

Freshman Year		Sophomore Year	
F	S	F	S
History 170	3	Chemistry 111, 112	4
English 111, 112	3	C.E. 201, 202	2
Geology 111, 112	4	Geology 251, 252	4
Health 130	2	Mathematics 213, 214 ...	5
M.E. 100	1	Physical education	$\frac{1}{2}$
Mathematics 111, 112 ...	5	Religion (upper div.) ...	2
Physical education	$\frac{1}{2}$		
Religion	2		
Total Hours	16 $\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$
			16 $\frac{1}{2}$

Junior Year			Summer School		
	F	S			
Anthropology 241		3	Geology 410 (Summer field camp)	4	hours
Archaeology 310	3				
Botany 105	3				
Chemistry 113	3				
Geology 311, 312	4	1			
Geology 313		3			
Geology 492		1			
Geography 231	3				
Religion (upper div.)	2	2			
Zoology 105		3			
Electives (upper div.) ..		3			
Total Hours	18	16	Total Hours	18	17

5th Year

Thirty semester hours of the following list may apply toward the B.E.S. degree in geological engineering: Geology 507, 512, 520, 530, 535, 540, 545, 551, 574, 575, 576, 580, 581, 591, 592; physical chemistry; differential equations; nuclear physics.

Geology 507, 512, and 551 are required.

Lower Division Courses

- 101 (101). Introduction to Geology.** (2:2:0) F.S.Su. Home Study also. (G-PS) Staff
A cultural non-technical course dealing with physical geology. Designed for the non-science student who desires a broad introduction to earth science and a greater appreciation of his surroundings. May be taken with or without Geology 102. Annual two-day field trip through central and southern Utah is sponsored each spring for all Geology 101, 102, and 103 students of the year.
- 102 (102). Introduction to Geology Laboratory.** (1:0:2) F.S.Su. (G-PS) Staff
Laboratory course (including a local field trip) in which common rock and ore-forming minerals, common rocks, and a few maps will be studied. Annual field trip, see Geology 101.
- 103 (103). Life of the Past.** (3:3:0) F.S.Su. Home Study also. (G-PS) Staff
A cultural non-technical course in historical geology. Designed for the non-science student who desires an understanding of life forms and general historic events of the geologic past. Annual field trip, see Geology 101.
- 111 (111). Physical Geology.** (4:3:2) F.S. (G-PS) Brimhall
Minerals, rocks, and other earth materials together with their distribution in the earth and the processes that operate on them. Includes several Saturday field trips early in semester. Cost: approximately \$10. Not recommended for students who have taken Geology 101 and 102.
- 112 (112, 113). Historical Geology.** (4:3:2) F.S. (G-PS) Prerequisite: Geology 111. Clark
The history of the earth and the evolution of its inhabitants. Representative fossils are studied in the laboratory. Required field trips cost approximately \$25.
- 251 (251). Mineralogy.** (4:2:4) F.S. Bullock
Study of crystallography and other important physical properties of minerals, and a detailed study of the ore-forming minerals.
- 252 (252, 253). Petrology.** (4:2:4) F.S. Prerequisite: Geology 251. Phillips
A detailed study of the rock forming minerals, and a megascopic study and classification of important igneous, sedimentary, and metamorphic rocks.

Upper Division Courses

- 306 (306). Geomorphology.** (3:3:0) F. Home Study also. (G-PS) Bushman
The earth's landscape features and their origin, dealing with the sculpturing of mountains, hills, plains, and plateaus by erosive processes, and the landform features produced by earth movements and volcanism. Designed especially for non-majors.
- 311 (311). Structural Geology.** (4:3:2) F. Prerequisites: Geology 252 and Mathematics 111. Hintze
Structural features of the earth's crust and forces which have produced these structures.
- 312 (505). Geological Literature and Scientific Report Writing.** (1:1:0) S. Prerequisite: successful completion of Junior English Proficiency Exam. Brimhall
Introduction to indexes and various sources of geologic literature. Written exercises on format, style, and expression in various kinds of geologic reports.
- 313 (313). Geologic Methods.** (3:2:2) S. Prerequisite: Geology 311. Bissell
Practice training in methods of geologic field work and the use of field instruments; office practice in geologic illustrations.
- 410 (410). Summer Field Camp.** (4:0:40) Su. only; see summer catalog. Prerequisites: Geology 313, 492. Staff
A six-week summer field camp in geologic mapping. A one-hour seminar is required during Second Semester prior to field camp. Required of all geology and geological engineering majors.
- 460 (460). Principles of Economic Geology.** (3:3:0) S. Prerequisites: Geology 252, Chemistry 113. Brimhall
Study of origin, mode of occurrence, classification, and use of more important metallic ores and non-metallic mineral products.
- 470 (470, 475). Stratigraphy and Sedimentation.** (3:2:2) F. Prerequisite: Geology 252. Bushman
Analytical study of sediments and their origin and study of the principles of stratigraphy.
- 480 (480). Introduction to Paleontology.** (3:2:2) F. Prerequisite: Geology 112. Rigby
Systematic study of fossil remains of the animal kingdom, and introductory study of structure, distribution, and development of animals in past ages.
- 492 (New). Seminar.** (1:1:0) S. Staff

Advanced Undergraduate or Graduate Courses

- 501 (501). Rocks and Minerals.** (2:2:0) F.Su. Staff
Introductory study of fundamentals of rock and mineral classification and identification. Designed to acquaint the student with the earth's common raw materials, their occurrences, and uses. For non-geology majors.
- 502 (502). Geology for Teachers.** (2:2:0) S.Su. Home Study also. Bushman
Designed to acquaint the teacher with sources of information, projects, and illustrative materials useful in the classroom.
- 507 (507). Founders and Concepts of Geology.** (2:2:0) F. Bushman
The historical development of geology and the men who contributed to it; the concepts and philosophy that make geology distinct from other sciences. Analysis of some of the more controversial problems in geology.
- 511 (511). Geomorphology.** (3:3:0) S. Bushman
The historical development of geomorphic concepts. The description of land forms and evaluation of the processes that formed them, and the application of this knowledge to paleogeography and economic geology.

- 512 (512). **Geology of North America.** (4:3:2) S. Rigby
A region by region study of the areal geology, physiography, and geologic development of Canada, United States, and Mexico.
- 520 (520). **Petroleum Geology.** (4:4:0) F.Su. Hansen
The origin, classification, physical properties, distribution, accumulation, and methods of exploration of petroleum.
- 530 (530). **Engineering Geology.** (3:3:0) F. Warner
The geological principles and phenomena which are important to an understanding of engineering problems (especially civil engineering), and the relationships which exist between the science of geology and the practical aspects of engineering.
- 535 (535). **Ground Water.** (4:4:0) S. Hansen
The origin, classification, migration, distribution, and production of water found beneath the earth's surface.
- 540 (540). **Geophysics.** (3:3:0) F. Prerequisites: Math 214, Physics 213. Brimhall
The principal objective is to familiarize the student with the scope of geophysics, give insight into methods used by geophysicists, and to outline some of the most important discoveries of these researches.
- 545 (645). **Geochemistry.** (3:3:0) F. Prerequisites: Math 213, Physics 213. Brimhall
The kinds and abundances of elements in the earth, their distribution, and the redistribution in various geologic processes.
- 551 (651). **Optical Petrography.** (5:3:4) F. Prerequisites: Geology 252, Physics 202 or 213. Phillips
The behavior of light in crystalline substances and its application to the microscopic identification of minerals as fragments and in thin-section. A consideration of the various schemes of rock classification and the petrographic (microscopic) description of rocks (igneous, sedimentary, and metamorphic) with regard to textures, structures, and probable mineral associations and their genetic implications.
- 574 (475). **Principles of Stratigraphy.** (2:2:0) F. Bissell
Study and interpretation of stratified rocks, principles of their origin, distribution, and correlation.
- 575 (575). **Pre-Cambrian and Paleozoic Stratigraphy.** (3:3:0) F. Hintze
Synthesis of regional stratigraphic relation in North America.
576. (576). **Mesozoic and Cenozoic Stratigraphy.** (3:3:0) S. Bushman
The basins of deposition (throughout the U.S.) of Mesozoic and Cenozoic rocks and key fossils associated with them. Special emphasis on the distribution of these rocks in the state of Utah.
- 580 (580). **Invertebrate Paleontology (Protozoans through Brachiopods).** (4:3:2) F. Clark
Designed for the upper division and the graduate student who desires a broad background in paleozoology including morphology, paleoecology, evolution, and stratigraphic significance of invertebrates. Basic course for student planning to do graduate work in paleontology or stratigraphy.
- 581 (581). **Invertebrate Paleontology (Mollusks through Hemichordates).** (4:3:2) S. Prerequisite: Geology 580. Clark
Continuation of Geology 580.
- 591, 592 (591, 592, 593). **Seminar.** (1:1:0 ea.) F.S. Staff

Graduate Courses

- 610 (610). **Structural Geology.** (3:3:0) S. Hintze
Earth structures and their origin, emphasizing foreign examples.

- 615 (615). Photogeology.** (3:1:4) S. Hintze
Techniques useful to practicing geologists; using parallax bar and various instruments applicable to contact print photos.
- 621 (621). Oil Field Development.** (3:3:0) S. Warner
The factors which are important to the production of oil and gas; the economical development of oil and gas fields.
- 641 (641). Geophysical Exploration.** (5:4:2) S. Not given this year. Staff
- 646 (646). Geochemical Techniques and Mineral Prospecting.** (3:2:2) S. Pre-requisite: Geology 545. Not given this year. Brimhall
A survey of the kinds of techniques employed in geochemical prospecting. About half the course is taken up with a field problem in geochemical prospecting.
- 653 (653). Determinative Mineralogy.** (4:2:4) S. Prerequisite: Geology 551. Phillips
Instruction in universal stage, polished opaque section, powder x-ray diffraction, and other advanced methods of mineral identification.
- 655 (655, 656). Igneous and Metamorphic Petrology.** (5:4:2) S. Bullock
A detailed study of igneous and metamorphic rocks, the methods of their classification, and conditions of their formation.
- 661 (661). Ore Deposits.** (4:3:2) F. Prerequisite: Geology 460. Bullock
A detailed survey of the major mining districts.
- 662 (662). Non-Metallic Deposits.** (3:3:0) F. Phillips
A detailed study of non-metallic mineral deposits, their mode of occurrence, and their applications in the modern industrial world.
- 670 (670, 673). Sedimentation and Sedimentary Tectonics.** (4:3:2) F. Bissell
Fundamental concepts in the science of sedimentology, and laboratory exercises illustrative of processes of sedimentation followed by review and discussions of tectonic environments which control sedimentation. Field trips are taken into areas illustrative of the subject matter.
- 671 (671, 672). Sedimentary Petrology and Petrography.** (4:3:2) S. Bissell
Field and laboratory classifications and studies of the sedimentary rocks. Particular emphasis is placed on carbonate petrology and petrography, and application to oil occurrence.
- 678 (678). Subsurface Methods.** (4:2:4) F. Prerequisite: Geology 551. Bushman
Designed to acquaint the student with the tools and techniques employed by the sub-surface geologist in describing the lithologic characteristics of sub-surface rock; the use of this information for interpreting sedimentation environments, geologic structures, and stratigraphic correlation.
- 680 (680). Micropaleontology.** (3:2:2) F. Prerequisite: Geology 480 or 581. Clark
A systematic study of the geologically important microfossils, including techniques, morphology, and stratigraphic significance. Conodonts, ostracodes, and foraminifera are stressed.
- 681 (681). Quantitative Paleontology.** (3:3:0) F. Prerequisite: Geology 480 or 581. Rigby
Introduction to biometrics and systematics of fossil organisms and of fossil assemblages.
- 682 (682). Vertebrate Paleontology.** (3:3:0) S. Prerequisite: Geology 480 or 581, or consent of instructor. Clark
A study of the backboneed animals through time (Agnatha through Mammalia). Morphology, ecology, phylogeny, and stratigraphic significance are stressed.

- 684 (684). **Stratigraphic Paleontology.** (3:2:2) F. Prerequisite: Geology 480 or 581. Rigby
A study of the characteristic fossil assemblages and of chronologically significant index fossils for each of the periods of geologic time.
- 685 (685). **Paleoecology.** (4:3:2) S. Prerequisite: Geology 480 or 581. Rigby
Interpretation of ancient environments and of the adaptation of organisms to these environments as shown by a systematic treatment of each of the major taxonomic groups and by selected analyses from the professional geologic literature.
- 696 (696). **Readings and Conference in Geology.** (1-4:1-4:0) F.S.Su. Staff
- 697 (New). **Directed Field Studies.** (Arr.) F.S.Su. Staff
Supervised field work in any of the fields of specialization in geology for candidates of master's degrees.
- 698 (698). **Research.** (1-4:1-4:0) F.S.Su. Staff
- 699 (699). **Thesis for Master's Degree.** (1-4:1-4:0) F.S.Su. Staff
- 797 (New). **Directed Field Studies.** (Arr.) F.S.Su. Staff
Supervised field work in any of the fields of specialization in geology for candidates of Ph.D. degrees.
- 799 (799). **Dissertation for Doctor of Philosophy Degree.** (Arr.) F.S.Su. Staff



Health and Safety Education

Professors: Hart, Hartvigsen.

Associate Professors: Watters (chairman, 224 SFH), Nicholes.

Assistant Professors: Duerden, Geddes, Robison, Tuckett.

Instructors: Kimball, Shaw.

Health Education Major: Students desiring to major in health education will take the following courses: Health 121, 325, 381, 521, 530, and 552; also the following courses from other departments or their equivalent: Foods and Nutrition 115, Zoology 264, Psychology 340, and at least six hours from other health courses or elective courses which also count in health education. The student's program is to be established through consultation with an adviser from the department.

Health Education Minor: Students may minor in health education by completing the following courses: Health 121, 325, 381, 521, and at least four hours selected from among the following: Foods and Nutrition 115, Health 530, 552, 560, and Psychology 340. In addition, four more hours are required which may be selected from the list of courses which also count in this department.

Driver and Safety Education Minor: Students may minor in driver education and qualify for state certification by completing the following: Health 121, 325, 444, 445, and at least six hours more selected from among the following: Health 521, 530, 560; Phys. Ed. 165 or 164; Psychology 321; and Instruction 406.

Composite Major: See courses required for teaching majors, minors, and composite majors listed under the College of Education.

Lower Division Courses

- 110 (110). Beginning Drivers' Laboratory.** (0:0:3) S.Su. Shaw
 Non-credit service course. Driver education for beginning drivers. Used as a laboratory in conjunction with Health Education 445. No driving experience required.
- 121 (121). First Aid.** (2:2:0) F.S.Su. Staff
 Principles and practices in emergency care and first aid procedures for injuries. American Red Cross Certificate given upon successful completion of course.
- 130 (130). Personal Health.** (2:2:0) F.S.Su. Home Study also. Staff
 Intended to develop adequate knowledge of health and illness and desirable health attitudes and practices. Required of all freshman students. May be taken either semester during freshman year.

These courses also count in health education:

Bacteriology 121. General Bacteriology. (3:3:2)

or

Chemistry 101. Introductory Inorganic Chemistry. (4:4:3)

or

Chemistry 105. General College Chemistry. (4:4:2)

or

Chemistry 111. Principles of Chemistry. (4:5:0)

Foods and Nutrition 115. Essentials of Nutrition. (2:2:0)

Psychology 185. Physiological Psychology. (2:2:0)

Zoology 264. Anatomy and Physiology. (5:3:4)

Upper Division Courses

- 325 (325). **Safety Education.** (2:2:0) F.S.Su. Home Study also. Shaw, Watters
Comprehensive course covering all major areas of general safety including school, playground, home, farm, industrial, and traffic safety.
- 361 (361). **The Elementary School Health Program.** (2:2:0) F.S.Su. Home Study also. Nicholes, Robison
Fundamental principles of health and their application in elementary school teaching. Designed for those preparing to teach in the elementary school.
- 362 (362). **The Secondary School Health Program.** (2:2:0) F.S.Su. Home Study also. Duerden, Watters
Fundamental principles of health and their application in secondary school teaching. Designed for those preparing to teach in secondary schools.
- 381 (381). **Program Planning in Secondary Health Education.** (2:2:0) S. Duerden
Emphasis on the role of the health specialist in integrated and concentrated programs; a study of functions, program planning, and resource materials related to school health education.
- 444 (310). **Driver Education Planning.** (2:2:0) S.Su. Recommended prerequisite: Health 325. Shaw
Organization, administration, and supervision of high school driver education programs.
- 445 (310, 510). **Driver and Traffic Education.** (4:2:4) S.Su. Recommended prerequisites: Health 325, 444. Shaw
Knowledge, attitudes, and skills related to driving. Behind-the-wheel instruction and practice instruction, fitness of drivers, insurance and liability, cost and care of car, traffic codes, nature's laws, highway, city, freeway, and adverse conditions of driving. Contributions to and the problems of the automobile in modern society.
- 451 (451). **School Health and Community Relations.** (1:1:0) S. Recommended prerequisite: Health 361 or 362. Duerden
Designed to increase understanding of the health relationships between the school and the community, including principles of community cooperation, disease prevention and control, and general methods of health promotion.

These courses also count in health education:

- Bacteriology 311. **Sanitation and Public Health.** (2:2:0)
Bacteriology 331. **Microbiology.** (4:2:6)
Physical Education 344. **Physiology of Activity.** (3:3:0)
Psychology 340. **Mental Hygiene.** (3:3:0)
Psychology 445. **Exceptional Children.** (3:3:0)
Sociology 449. **Community Organization, Action, and Planning.** (3:3:0)

Advanced Undergraduate or Graduate Courses

- 501 (501). **Health Education Workshop.** (1-2:Arr.:0) F.S.Su. Staff
Intended primarily for extension credit and/or summer school. Involves a presentation of health education problems followed by discussions. Conducted on a workshop basis.
- 521 (521). **Evaluation and Selection of School Health Material.** (2:2:0) F. Duerden
Pamphlets, brochures, films, textbooks, and other school health resource materials are evaluated and selected for present and future use.

- 530 (530). First Aid Instructor.** (2:2:1) F. Staff
A course designed to qualify instructors in Red Cross first aid, in order that they may conduct classes to qualify individuals for standard and advanced Red Cross cards.
- 551 (551). Field Work in Community Health.** (2:Arr.:Arr.) S. Recommended prerequisite: Health 451. Duerden
Designed to broaden understanding of community health agencies, their roles, programs, and relationships. This is accomplished by field introductions to the various official and voluntary health agencies followed by the selection of agencies in which to do field work during the semester.
- 552 (552). School Health Services.** (2:2:0) S. Staff
Considers desirable school health services and functions and relationships to public education and education law. Coordinates school health services with community programs.
- 560 (560, 332). Stimulants and Depressants.** (2:2:0) F. Nicholes
The physiology and biological chemistry of stimulants and depressants.

These courses also count in health education:

- Chemistry 580. Metabolic Processes.** (2:2:0)
- E.R.S. 540. Statistical Methods.** (2:2:0)
- E.R.S. 550. Introduction to Guidance Services** (2:2:0)
- Foods and Nutrition 535. Advanced Human Nutrition.** (2:2:0)
- Geography 585. Geography of Underdeveloped Areas.** (2:2:0)
- H.D.F.R. 510. Advanced Child Development.** (3:3:0)
- H.D.F.R. 580. Introduction to Marriage and Family Counseling.** (2:2:0)
- Psychology 540. Abnormal Psychology.** (3:3:2)
- Psychology 585. Advanced Physiological Psychology.** (3:3:0)
- Sociology 580. Social Relations in Medical Health Organizations.** (3:3:0)
- Speech 545. Public School Audiometry.** (2:2:2)

Education Course

- 479 (479). Secondary Student Teaching.** (8:8:0) F.S. Staff

Graduate Courses

- 693 (693). Research in Health Science.** (2:1:2) F.S. Staff
Independent and/or directed research in problems associated with the health sciences. This course gives credit to those graduate students involved in directed or independent research from grant-in-aid, fellowship, or contract grant support.
- 694 (694). Seminar in Readings.** (2:2:0) S.Su. Staff
- 696 (696). Seminar in Problems.** (1:1:0) F.Su. Staff
- 698 (698). Field Project.** (1-4:Arr.:Arr.) S. Staff
- 699 (699). Thesis for Master's Degree.** (1-4:2-5:0) F.Su. Staff

These courses also count in health education:

- E.R.S. 620. Counseling Theory and Practice.** (3:3:0)
- Food and Nutrition 675. Recent Advances in Nutrition.** (2:2:0)

Food and Nutrition 695. Methods of Research in Nutrition. (2:1:4)

Instruction 662. Philosophy of Program Planning. (2:2:0)

Physical Education 660. Measurement and Evaluation. (3:3:0)

Physical Education 691. Seminar in Administration and Public Relations. (3:3:0)

Psychology 655. Psychosomatic Problems. (2:2:0)

Zoology 662. Advanced General Physiology. (3:3:0)



History

Professors: Campbell (chairman, 340 McKay), Hafen, Poll, Swensen.

Assistant Professors: Addy, Hyer, Jensen.

Instructors: Cardon, Perkins.

Requirements for a Major

A history major requires the completion of 30 hours of work in this field. These courses are required: History 110, 111, 120, 121, normally taken in the freshman and sophomore years; History 388 and Library Science 370, junior year; History 490, senior year. Majors who seek certification in secondary education are also required to take History 366. The remaining elective hours should be selected in consultation with the departmental adviser. Not more than 12 hours of lower division work in history may be applied toward the major.

A comprehensive examination is given to all majors in the final quarter of the senior year.

A student deciding to major in history should immediately consult the chairman of the department who will assist in the selection of the minor field.

The requirements for a teaching major in history and for the composite major in social sciences which includes history are found under College of Education.

Suggestions for a Minor

A history minor requires 14 hours of course work not including History 170. At least 6 hours must be chosen from History 110, 111, 120, and 121.

For the requirements for a teaching minor in history, see College of Education.

American History and Government Requirement

For details concerning the American history and government requirement, see "General Education Program" in the Student Academic Services section.

Lower Division Courses

- 110 (110). World Civilization I.** (3:3:0) F.S.Su. Home Study also. (G-HA) Staff
 Beginnings of major world civilizations and their development to approximately 1650 A.D., with emphasis on Europe.
- 111 (111). World Civilization II.** (3:3:0) F.S.Su. Home Study also. (G-HA) Staff
 Development of major world civilizations since 1650 A.D., with emphasis on Europe.
- 120 (120). The United States to 1865.** (3:3:0) F.S.Su. Home Study also. (G-HA) Staff
 Discovery and colonization, the American Revolution, establishment of the Constitution, foreign affairs, westward expansion, sectionalism, and the Civil War.
- 121 (121). The United States since 1865.** (3:3:0) F.S.Su. Home Study also. Staff
 (G-HA)
 Civil War and reconstruction, industrialization and urbanization, American imperialism, progressivism, world wars, New Deal, and current problems.

- 170 (170). **The American Heritage.** (3:3:0) F.S.Su. **Staff**
 Growth of the United States under the Constitution, with emphasis on political ideas and institutions and the adaptation of the governmental system to America's role as an industrial and world power.

This course also counts in history:

Economics 274. Economic History of the United States. (3:3:0)

Upper Division Courses

Upper division and graduate classes to be offered in the summer of 1962 will be announced in the summer school catalog.

- 300 (300). **Early Oriental History.** (2:2:0) F. (G-HA) **Nibley**
 Ancient Egypt, Babylonia, Assyria, Arabia, Persia and Palestine.
- 304 (304). **Greek History and Civilization.** (3:3:0) S. (1961-62 and alternate years.) (G-HA) **Swensen**
- 307 (307). **Roman History and Civilization.** (3:3:0) (1962-63 and alternate years.) (G-HA) **Swensen**
- 311 (511). **History of the Middle Ages.** (3:3:0) F. (G-HA) **Swensen**
- 312 (312). **Renaissance and Reformation.** (3:3:0) F.S. Home Study also. (G-HA) **Jensen, Swensen**
- 316 (316). **Western Civilization I.** (1-2:Arr.:Arr.) Su. **Staff**
 Limited to participants in the B.Y.U. Travel-Study Program.
- 317 (317). **Western Civilization II.** (1-2:Arr.:Arr.) Su. **Staff**
 Limited to participants in the B.Y.U. Travel-Study Program.
- 323 (323). **Europe in the Twentieth Century** (2:2:0) S. Home Study also. (1961-62 and alternate years.) (G-HA) **Cardon, Jensen**
- 330 (330). **Russia before 1900.** (2:2:0) F. **Mabey, Poll**
- 331 (331x). **Russia since 1900.** (2:2:0) S. Home Study also. **Mabey, Poll**
- 332 (332). **France since 1610.** (3:3:0) S. Home Study also. **Jensen**
- 333 (333). **Modern Germany.** (2:2:0) F. **Jensen**
- 334 (334). **Spain.** (2:2:0) (1962-63 and alternate years.) (G-HA) **Addy**
- 335 (335). **England.** (3:3:0) F. (G-HA) **Cardon**
- 336x (336x). **History of England to 1714.** (2) Home Study only. **Jensen**
 Not open to students who have taken History 335.
- 337x (337x). **History of England since 1714.** (2) Home Study only. **Jensen**
 Not open to students who have taken History 335.
- 340 (340). **Asia.** (3:3:0) F. (G-HA) **Hyer**
 Emphasis on China, Japan and India.
- 343 (345). **Formative Period of Chinese Civilization.** (2:2:0) F. **Hyer**
 Development of China to recent times, with emphasis on social and cultural factors.
- 344 (345). **Modern China.** (2:2:0) S. **Hyer**
- 346 (346). **Japan.** (2:2:0) (1962-63 and alternate years.) **Hyer**
- 347 (347). **India.** (2:2:0) S. (1961-62 and alternate years.) **Hyer**
- 351 (351). **History of Latin America I.** (3:3:0) F. Home Study also. **Addy**
 Colonial period. Geography, pre-Columbian civilization, conquest, and institutional development from 1492 to 1800.

- 352 (352). History of Latin America II.** (3:3:0) S. Home Study also. (G-HA) Addy
National period. The wars of independence, evolution of modern republics, inter-American relations, and institutional development from 1800 to the present.
- 353 (353). Mexico.** (2:2:0) S. (1961-62 and alternate years.) Home Study Addy
also.
- 360 (360). The American Frontier.** (2:2:0) F.S. Campbell, Hafen
Highlights and significance of the westward movement in American history.
- 364 (364). The Indian in American History.** (2:2:0) F. (1961-62 and alternate years.) Hafen
- 365 (365). California.** (2:2:0) (1962-63 and alternate years.) Home Study Campbell
also.
- 366 (366). Utah.** (2:2:0) F.S. Home Study also. Staff
Emphasis on the Utah territorial period and the Mormon contribution. Not open to freshmen or sophomores.
- 370 (370x). Colonial America.** (2:2:0) F. Home Study also. Perkins
- 373 (373). American Intellectual and Cultural Growth.** (2:2:0) F. (G-HA) Bushman
- 379 (New). U.S. in 20th Century.** (3:3:0) S. Perkins
- 388 (388). Historiography.** (2:2:0) F.S. Swensen, Tyler
Fundamental problems and types of historical analysis and interpretation, philosophies of history, and work of outstanding historians. Required of history majors and recommended for the junior year.
- 490 (490). Senior Seminar.** (2:2:0) F.S. Prerequisite: Library Science 370 or equivalent. Staff
Required of all history majors in the senior year.
- 498 (498). Directed Readings.** (1-2:0:Arr.) F.S.Su. Staff

These courses also count in history:

Library Science 370. Historical Bibliography and Methods of Research. (2:2:0)

Political Science 306. History of American Political Thought. (2:2:0)

Political Science 322. Contemporary Problems. (2:2:0)

Advanced Undergraduate or Graduate Courses

In the Department of History, courses in the 500 series provide systematic coverage of rather broad areas of subject matter through text and library readings, lectures, reports, and class discussions. Students who have not completed the relevant courses from among History 110, 111, 120 and 121 should obtain permission of the instructor before enrolling in any of these courses.

- 512 (512). Medieval Thought and Culture.** (3:3:0) (1962-63 and alternate years.) Swensen
- 520 (New). Eighteenth Century Europe.** (2:2:0) S. (1961-62 and alternate years.) Addy
- 522 (522). Nineteenth Century Europe.** (2:2:0) (1962-63 and alternate years.) Addy
- 525 (525). European Diplomatic History since 1815.** (2:2:0) (1962-63 and alternate years.) Jensen
A study of the most influential ideas and intellectual movements of the last three centuries.

548	(548).	Culture of Asia. (2:2:0) F. (1961-62 and alternate years.)	Hyer
562	(562).	American Westward Movement to 1825. (3:3:0) F.	Hafen
563	(563).	American Westward Movement after 1825. (3:3:0) S.	Hafen
572	(572).	American Revolution and the Confederation. (2:2:0) F.	Backman
575	(675).	The New Nation, 1787-1815. (2:2:0) S. (1961-62 and alternate years.)	Campbell
576	(676).	Jacksonian America. (2:2:0) (1962-63 and alternate years.)	Perkins
577	(677).	Civil War and Reconstruction. (2:2:0) (1962-63 and alternate years.)	Poll
578	(678).	American Industrial Revolution. (2:2:0) F. (1961-62 and alternate years.)	Poll
585	(585).	Historical Geography of United States. (2:2:0) (1962-63 and alternate years.)	Staff

These courses also count in history:

Political Science 557. Government and History of Canada. (3:3:0)

Political Science 571. American Foreign Policy. (3:3:0)

Political Science 595. American Constitutional Development. (2:2:0)

Graduate Courses

In the Department of History, courses in the 600 series, excepting seminars, develop selected problems within the general areas of the course titles through extensive library reading, reports, and class discussions. Seminars require each participant to produce a substantial research paper. Seniors who have completed all of the specifically required courses for the undergraduate major may enroll in these courses with the permission of the instructor.

606	(606).	Greek Thought. (2:2:0) (1962-63 and alternate years.)	Swensen
618	(618).	Renaissance and Reformation. (2:2:0) S. (1961-62 and alternate years.)	Jensen
621	(621).	Modern Europe. (2:2:0) (1962-63 and alternate years.)	Jensen
640	(640).	The Far East. (2:2:0) (1962-63 and alternate years.)	Hyer
650	(650).	Latin America. (2:2:0) F. (1961-62 and alternate years.)	Addy
656	(656).	Southwestern United States. (2:2:0) (1962-63 and alternate years.)	Hafen
670	(670).	Colonial America. (2:2:0) (1962-63 and alternate years.)	Bushman
679	(579).	Contemporary United States History. (2:2:0) S. (1961-62 and alternate years.)	Poll
694	(694).	Seminar in European History. (2:2:0) F.	Staff
695	(695).	Seminar in Western American History. (2:2:0) F.	Staff
696	(696).	Seminar in United States History. (2:2:0) S.	Staff
697	(697).	Seminar in Utah History. (2:2:0) S.	Staff
698	(698).	Special Readings in History. (1-2:0:Arr.) F.S.Su.	Staff
699	(699).	Thesis for Master's Degree. (1-4:0:Arr.) F.S.Su.	Staff
799	(799).	Dissertation for Doctor's Degree. (1-4:0:Arr.) F.S.Su.	Staff

History and Philosophy of Religion

Professors: Burton, Nibley, Rich, Yarn.

Associate Professors: Andrus, Barron, Clark, Larson, Riddle.

Assistant Professors: Madsen (chairman, 112 S), Backman, Barrett, Bushman, Horsley, Patch, Shaw.

Courses in the Department of History and Philosophy of Religion are offered to help students meet the religion requirements of the University. An undergraduate major or minor is **not** offered in this department. A graduate major or minor is offered at both the master's level and doctoral level. (See section on the College of Religious Instruction.)

HISTORY OF RELIGION

Lower Division Courses

- 240 (New). Church History.** (1-2:Arr.:Arr.) Su. Staff
 Limited to participants in the B.Y.U. Travel-Study Program.
 The growth of the Church from the New York period to the westward migration.
- 241, 242 (131, 132, 133). Latter-day Saint History.** (2:2:0 ea.) F.S.Su. (G-R) Staff
 A chronological study of main events in Church history from 1805 to the present.

Upper Division Courses

- 441, 442 (301, 302, 303, 304, 305, 306). History and Doctrine of the Church.** (3:3:0 ea.) F.S.Su. Home Study also. (G-R)
 Andrus, Backman, Barrett, Barron, Bushman, Horsley, Larson, Rich
 A topical examination of the history of the Church. Interpretive writings include Roberts' **Comprehensive History of the Church**. Students must have instructor's permission to enroll in these courses for credit if credit has been allowed for 241 and 242.
- 451 (364, 365). Christian History through the 15th Century.** (2:2:0) F.S.Su. (G-R) Horsley
- 452 (365, 366). Christian History after the 15th Century.** (2:2:0) F.S.Su. (G-R) Horsley
- 453 (355). World Religions.** (2:2:0) F.S.Su. (G-R) Staff
- 454 (353). American Religions.** (2:2:0) F.S.Su. (G-R) Backman

Advanced Undergraduate or Graduate Courses

- 545 (307). Great Figures of L.D.S. Church History.** (2:2:0) F.S.Su. Barrett
 Biographical study of significant L.D.S. Church personalities of the first half century of the restoration.
- 546 (524). Social, Economic, and Political Thought of Joseph Smith.** (2:2:0) F.S. Andrus
- 551 (514). The Primitive Church.** (2:2:0) F. Nibley
- 552 (515). Christianity in the Second and Third Centuries.** (2:2:0) F.S. Nibley

- 553 (351). **Great Figures in Christian History.** (2:2:0) F.S.Su. Horsley
Biographical study of significant Christian personalities from Paul to Joseph Smith and their contributions to Christianity.
- 554 (352). **Martin Luther, Forerunner of the Restoration.** (2:2:0) F.S.Su. Horsley
Luther's life, theology, and influence upon Protest-Christians, with special emphasis on the significance of Luther for Mormonism.
- 555 (581, 582). **Comparative World Religions.** (2:2:0) F.Su. Staff
Hinduism, Jainism, Sikhism, Buddhism.
- 556 (582, 583). **Comparative World Religions.** (2:2:0) S.Su. Staff
Taoism, Confucianism, Shintoism, Judaism, Zoroastrianism, Islam.
- 557 (551). **Religions of the Ancient Near East.** (2:2:0) F. Nibley
- 558 (553). **Christian Rites and Liturgy.** (2:2:0) S. Nibley

Graduate Courses

- 641, 642 (621, 622, 623). **Special Problems in L.D.S. Church History.** (2:2:0 ea.) F.S.Su. Andrus, Backman, Larson, Rich
- 645, 646 (531, 532, 533). **Historical Development of L.D.S. Doctrine and Practices.** (2:2:0 ea.) F.S.Su. Andrus, Backman, Larson
- 653 (544). **History of the Papacy.** (2:2:0) F.Su. Horsley
- 654 (632). **Reformation and Counter-Reformation.** (2:2:0) S.Su. Horsley
- 657, 658 (647, 648, 649). **Comparative Studies in American Religions.** (2:2:0 ea.) F.S. Backman
- 699 (699). **Thesis for Master's Degree.** (1-4:1-4:0) F.S.Su. Staff
- 748 (New). **Readings in L.D.S. Church History.** (1-2:1-2:0) F.S.Su. Andrus, Backman, Larson, Rich
- 755 (New). **Seminar: History of Religion.** (2:2:0) F.S.Su. Andrus, Horsley, Larson, Rich
- 758 (New). **Readings in Christian History.** (1-2:1-2:0) F.S.Su. Horsley, Nibley
- 759 (New). **Readings in the History of World Religion.** (1-2:1-2:0) F.S.Su. Nibley
- 799 (799). **Doctoral Dissertation.** (1-4:Arr.:Arr.) F.S.Su. Staff

PHILOSOPHY

Upper Division Courses

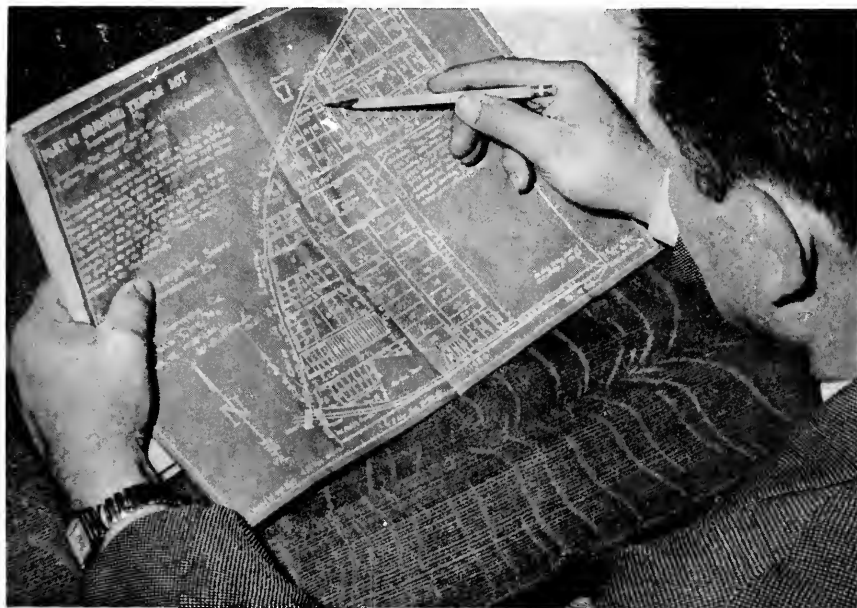
- 380 (308). **Survey of Philosophy.** (2:2:0) F.S.Su. (G-HA) Staff
Introduction to types, fields, and problems of philosophy.
- 480 (310). **Introduction to Logic.** (3:3:0) F.S.Su. (G-HA) Riddle
Formal aspects of language, deductive logic, and scientific method.
- 482 (575). **Ethics: Plato to Dewey.** (2:2:0) F.Su. (G-HA) Patch, Yarn
An historical approach to the major ethical theories of the Western world.
- 483 (424). **Problems of Knowledge.** (2:2:0) F. (G-HA) Riddle
Analysis of how experience becomes knowledge.
- 484 (426). **Types of Religious Philosophy.** (2:2:0) F. (G-HA) Yarn
Survey of the philosophical bases of Christian religion.

Advanced Undergraduate or Graduate Courses

- 580 (571, 572). **History of Ancient Philosophy.** (3:3:0) F.Su. Yarn
Western philosophy from the 6th century B.C. to the 5th century A.D.
- 581 (572, 573). **History of Modern Philosophy.** (3:3:0) S.Su. Yarn
Western philosophy from the 6th century to the 19th century.
- 582 (420). **Contemporary Ethics.** (2:2:0) S.Su. Patch, Madsen
Examination of the meaning and function of moral judgments and the bases of ethical commitment.
- 583 (425). **Philosophy of Science.** (2:2:0) F.S.Su. Riddle
Examination of the conceptual framework of modern science.
- 584 (562). **Current Trends in Philosophy of Religion.** (2:2:0) F.S.Su. Madsen
- 585 (574). **Contemporary Anglo-American Philosophy.** (2:2:0) F.S.Su. Madsen
Men and movements in naturalism and logical positivism.
- 586 (579). **Contemporary Continental Philosophy.** (2:2:0) S.Su. Madsen
20th century developments in existentialism, phenomenology, and Marxism.
- 587 (546). **Scholasticism, Humanism, Mysticism.** (2:2:0) F.S.Su. Horsley

Graduate Courses

- 681 (651). **Seminar: Philosophical Analysis.** (2:2:0) S.Su. Riddle
- 682 (New). **Seminar: History of Philosophy.** (2:2:0) S.Su. Yarn
- 683 (653). **Seminar: Philosophy of Religion.** (2:2:0) S.Su. Madsen
- 688 (New). **Readings in Philosophy.** (1-4:1-4:0) F.S.Su. Staff



Homemaking Education

Assistant Professor: Poulson (chairman, 2218 SFLC).

Instructor: Barnett.

Special Instructors: Beck, Shumway, Thomson, Wakefield.

The objective of the Department of Homemaking Education is two-fold: (1) to provide instruction that will lead to certification to teach, and (2) to help become prepared for marriage and family living.

A bachelor's degree with certification to teach homemaking or without certification may be earned in homemaking education.

A. Majors desiring to receive a bachelor's degree with a major in homemaking education and a certificate from the State Department of Public Instruction to teach homemaking in secondary schools will need to complete the following program:

1. College of Family Living Required Courses—42-45 credit hours*:

H.D.F.R. 210, 322, 361.

Nursing 288.

Food and Nutrition 110 (need determined by test), 255, 264, 265, 340.

Clothing and Textiles 110, 165, 235 or 300, 260.

Housing and Home Management 220, 330, 350, 351, 370.

Homemaking Education 91.

*Three credit hours of the above listed H.D.F.R. courses may be used for social science general education credit.

2. General Education Requirements—33 credit hours:

Biological science 6-8

Bacteriology 121

Zoology 105

Health 130

Humanities and aesthetics .. 8

Art 101 or 110

Literature

Elective

Social science 5

Psychology 111

H.D.F.R. elective

History 170 3

Physical science 11

Chemistry 101 and 102

Physics 100

3. Professional Education Courses—24 credit hours:

Homemaking Education 377, 475, 479.

Health Education 362.

Instruction 301, 405.

Educational Administration 410.

E.R.S. 304.

4. Suggested Electives in College of Family Living:

Clothing and Textiles 355.

Food and Nutrition 245.

Housing and Home Management 235, 380, 381.

H.D.F.R. 324, 360.

B. Majors desiring to receive a bachelor's degree in homemaking education without certification will complete the College of Family Living requirements and suggested electives, and the General Education requirements. In addition, Homemaking Education 377, 475, and Speech 102 are strongly recommended. Majors not desiring certification should see an adviser in the Homemaking Education Department to set up their program.

Suggested Program for Majors Desiring Certification

Freshman Year		
	F	S
Religion	2	2
English (composition) ..	3	3
Chemistry 101	4-5	
Chemistry 102		4-5
Art 101 or 102	2	
Homemaking Education 91		0
Clothing and Textiles 110	2	
Physical education	½	½
Physics 100		3
Bacteriology 121		3
Elective	2	
Total Hours	15½-16½	15½-16½

Sophomore Year		
	F	S
Religion	2	2
Physical education	½	½
H.D.F.R. 210		3
Psychology 111	3	
English literature	2	
Nursing 288	1	
Health 130	2	
Zoology 105	3	
Food and Nutrition 110	3	
Housing and Home Mgt. 220		2
Food and Nutrition 255		3
Clothing and Textiles 165		4
Clothing and Textiles 260		3
Total Hours	16½	17½

Junior Year		
	F	S
Religion	2	2
H.D.F.R. 361		3
Instruction 301	1	
Housing and Home Mgt. 350, 351	2	2
Housing and Home Mgt. 330	2	
Food and Nutrition 264, 265	4	
H.D.F.R. 322	2	

Food and Nutrition 340	3
Clothing and Textiles 235 or 300	3
English lit. or humanities	3
Homemaking Education 377 (or block senior year)	3
Total Hours	16

Senior Year	
First Semester	
1st Half Semester	
Homemaking Education 475	3
Religion	2
Housing and Home Mgt. 370	3
2nd Half Semester	
Homemaking Education 479	8
Total Hours	16

Second Semester	
Health Education 672	2
Electives	4
History 170	3
Educational Admin. 410	3
Instruction 405	2
E.R.S. 304	2
Total Hours	16

PLAN B:	
First Semester	
1st Half Semester	
Homemaking Education 479	8
2nd Half Semester	
Homemaking Education 475	3
Religion	2
E.R.S. 304	2
Health Education 362	2
Total Hours	17

Second Semester	
Religion	2
Elective	2
History 170	3
Educational Admin. 410	3
Instruction 405	2
Housing and Home Mgt. 370	3
Total Hours	15

Courses

- 91 (101). Orientation to Family Living. (0:2:0) F.S. Staff
 An exploratory course to orient the student to the major areas of family living.

- 377 (377). Secondary Teaching Procedures.** (3:3:Arr.) F.S. **Staff**
See Instruction 377.
- 475 (475). Curriculum Development in Homemaking Education.** (3:3:4) F.S. **Staff**
Aspects of curriculum development; varieties of learning experiences. Comprehensive techniques are considered with preparation of illustrative material for aid in teaching secondary classes.
- 479 (479). Secondary Student Teaching.** (8:1:Arr.) F.S. **Staff**
Supervised teaching carried on in an approved homemaking department of a public school. See Instruction 479.

Heritage Halls Academic Non-Credit Program:

The Department of Homemaking Education shares responsibility with University Housing for the education of young women residents toward more effective and happy group living in campus housing. Continuous instruction is given at Heritage Halls (women's resident apartments) in the mechanics of everyday group living. The year's program includes management of time, energy, and resources; buying and storing food; planning and preparing adequate meals; care of ranges, refrigerators, and other electrical appliances; good laundering practices and care of washers; care, repair, and production of clothing; and family fun and entertaining.

A staff of four professional home economists is on duty daily in two centers—Snow Hall (Room 13B) and Rogers Hall (Room 9B). Staff members call in all apartments to assist women residents in the above mentioned areas of living. They produce needed information and guides such as menus, recipes and shopping guides, cleaning suggestions, management plans, and timely tips. The staff draws on the entire College of Family Living faculty to extend the professional service.

Demonstrations are given as needed in all phases of homemaking. The residents may call at the centers for help or may request a staff member to visit their apartment to assist them. The centers are equipped with many aids for homemaking such as recipes, account books, sewing equipment, laundry information, etc. Approximately 2,000 young women are served by this program.



Horticulture and Horticultural Specialties

Associate Professor: Ashton.

Assistant Professor: Reimschuessel (chairman, 265 CPSL).

A student majoring in the Department of Horticulture and Horticultural Specialties must meet the entrance and graduation requirements of the College of Biological and Agricultural Sciences. Horticulture majors are required to take, preferably during the freshman and sophomore years, one course from each of the following areas: Agricultural Economics 101, 310, 325; Agronomy 141, 302; Animal Husbandry 161, 170, 207; Botany 101, 110.

A student majoring in this department may emphasize either fruit production (pomology), floriculture and greenhouse management, landscape design (minor only), landscape maintenance, ornamental horticulture and nursery management, or turf management.

All majors planning to do graduate work toward a Ph.D. degree are advised to take Mathematics 101, 111 or 112; Chemistry 105, 106 or 111, 112, and 113; German 101, 102 or French 101, 102; Statistics 221, 431, 531.

Students emphasizing pomology are required to take the following: Horticulture 101, 103, 310, 312, 317, 402, 455, and 471. Recommended courses: Agronomy 141, 305, 451, and 459; Botany 101, 176, 440, 480; Chemistry 111 or equivalent courses; Zoology 105 and 334.

Students emphasizing floriculture and greenhouse management are required to take the following: Horticulture 103, 107, 108, 112, 318, 402, 471; Agronomy 141, 305, 459; Botany 101, 176, 440, 480. Zoology 105 and 334 are recommended. If emphasis is placed on floral designing, the following courses are required: Horticulture 103, 107, 122, 318; Art 110, 314, 415; Housing and Home Management 330 and 410.

Students minoring in landscape design are required to take Horticulture 103, 112, 430; Art 110, 122, 233, 314, 415; Housing and Design 330, 410; Drawing 100, 110, 111, 156, 355.

Students emphasizing landscape maintenance are required to take Horticulture 101, 103, 107, 108, 312, 317, 402, 416, 430, and 471; Agronomy 141, 302, 451; Botany 101, 110, 205, 440, 480; Chemistry 111; Art 110.

Students in ornamental horticulture and nursery management are required to take Horticulture 101, 103, 107, 108, 312, 317, 402, 416, 430, 471; Botany 101, 105, 110, 440; Agronomy 141, 302, 305, 451, 459; Zoology 105 and 334.

Students in turf management are required to take Horticulture 103, 107, 108, 319, 402, 471; Botany 101, 105, 110, 440; Agronomy 141, 305, 451, 459; Zoology 105 and 334.

Students minoring in horticulture are required to take Horticulture 101, 103, 107, 310, 319, 402, 416 (or Botany 205); Agronomy 451 and 459.

Lower Division Courses

101 (101, 102). General Horticulture. (3:3:0) F.S. Home Study also.

Principles underlying the profitable production of fruit trees, small fruits, and vegetables. Sites, soils, fertilizers, varieties, culture, past problems, harvesting, storage, and propagation. Ashton

103 (103). Beautifying the Home Grounds. (3:3:0) F.S. Reimschuessel
Principles of design and composition as applied to home ground development and related plant culture.

- 107 (107, 315). **Floriculture.** (2:2:0) F.S. Home Study also. Reimschuessel
Herbaceous plant culture in the greenhouse and out-of-doors.
- 108 (New). **Floriculture Laboratory.** (1:0:2) Reimschuessel
(To be taken concurrently with Horticulture 107.)
- 112 (112). **Flower Arrangement.** (2:1:2) F.S. Reimschuessel
Principles and methods of arranging flowers and other plant materials for decorative use in the home and for exhibition.

Upper Division Courses

- 310 (310). **Small Fruit Production.** (2:2:0) S. Ashton
Principles and practices of successful and profitable production of small fruits for home and commercial plantings. Special emphasis on new varieties, and disease and insect control.
- 312 (312). **Practical Orchard Management.** (3:0:5) S. Ashton
Training, pruning, fertilizing, insect control, and fruit thinning of orchard trees.
- 317 (317). **Nursery Practice.** (2:1:2) S. Taught odd-numbered years. Prerequisite: Horticulture 101 or 103 or equivalent. Reimschuessel
Principles underlying the profitable management of a nursery. Site, soil, culture, and handling of nursery stock. Transplanting, propagation, and pest problems.
- 318 (318). **Greenhouse Production.** (4:2:4) S. Taught even-numbered years. Prerequisite: Horticulture 107 or equivalent. Reimschuessel
Principles underlying the management of a greenhouse. Cultural practices of growing indoor plants emphasized.
- 319 (319). **Turf Management.** (2:1:2) F. Taught odd-numbered years. Prerequisite: Horticulture 107 or equivalent. Reimschuessel
The management of turf grasses as related to climate, soil and use on the golf course, park, and private area.
- 350 (352, 353, 456). **Pomology.** (3:3:0) F. Prerequisite: Horticulture 101. Ashton
A study of fruit varieties with respect to their development and uses. Special emphasis given to harvesting, handling, and storage problems.
- 391, 392 (New). **Seminar.** (1:1:0 ea.) F.S. For majors in junior year. Staff
Current literature in horticulture is reviewed.
- 402 (402, 403). **Plant Propagation.** (3:2:2) S. Ashton
Principles and practices of plant propagation with special emphasis on fruit and ornamental plants.
- 416 (416). **Ornamental Woody Plants.** (3:2:2) S. Recommended prerequisite: Botany 123. Reimschuessel
Identification, culture, and use of important ornamental woody plants in Utah.
- 430 (324, 430). **Landscape and Planting Design.** (3:0:6) F. Taught odd-numbered years. Prerequisite: Horticulture 103; drawing recommended. Reimschuessel
Design and plant combinations for private and public grounds using woody and herbaceous plants.
- 455 (455). **Advanced Pomology.** (3:3:0) S. Prerequisite: Horticulture 101. Ashton
Problems related to the establishing and maintaining of deciduous orchards.
- 471 (471). **Pest Control in Orchards and Field Crops.** (3:3:0) F. Prerequisites: Horticulture 101; Botany 101; recommended prerequisite: Botany 470. Ashton

Cultural, chemical, biological methods and machines used in control of pests and diseases of orchard and field crops.

491, 492 (491, 492, 493). Seminar. (1:1:0) F.S. For majors in senior year.
Staff

Current literature in horticulture is reviewed.

495, 496 (495, 496, 497). Special Problems in Horticulture. (1-3:Arr.:Arr.)
F.S. Staff

These courses also count in horticulture:

Agronomy 459. Plant Breeding. (2:2:0)

Botany 480. Diseases of Cultivated Plants. (3:2:3)



Housing and Home Management

Assistant Professor: Stanford (chairman, 3256 SFLC).

Instructors: Barlow, Knell, Lewis, Thomson, Viehweg, Vincent.

The objective of the Department of Housing and Home Management is increased understanding and appreciation of the influence of the home environment upon the character of family living. Enhancement of the quality of the house, its equipment, furnishings, decoration, and the grounds through good design and increased effectiveness of its control through sound principles of management become central considerations in course offerings.

Educational opportunities are provided for observation, study, and creative experience in the design or management of homes or both, depending upon student preferences and objectives.

The following program is recommended for a major in housing and home management:

Freshman Year		Housing and Home Mgt.	
	Hours		
Religion	4	220 or 221, 235	5
Forum 101	1	Electives	5
English 111, 112	6	Total Hours	32
Physical education	1		
Health 130	2	Junior Year	
Bacteriology 121	3	Religion	4
Botany 101 or Zoology 105	3	Forum 301	1
Horticulture 103	3	H.D.F.R. 210, 360	6
Art 110	2	Clothing and Textiles 110, 260 ..	5
Economics 101	3	Housing and Home Mgt. 330	3
Housing and Home Mgt. 101	2	Electives	11
Homemaking Education 91	0	Total Hours	30
Elective	2		
Total Hours	32		
Sophomore Year		Senior Year	
Religion	4	Religion	4
Forum 201	1	Forum 401	1
Physical education	1	English literature	3
Food and Nutrition 110, 115	4	Food and Nutrition 255, 264	
Physics 100	3	340; Housing and Home	
Psychology 111	3	Mgt. 350, 351, 370 or	
History 170	3	Art 314; Housing and Home	
Art 122	3	Mgt. 380, 381, 410, 590, 595 ..	15
		Electives	7
		Total Hours	30

Lower Division Courses

- 101 (New). Introduction to Family Housing.** (2:2:0) F.S.Su. Staff
 Contemporary American housing with reference to rural and urban differences, technological developments, occupational patterns, recreational activities, and political, economic, and social controls.
- 210 (H.D. 310). Style Developments in Family Housing.** (2:2:0) F. Viehweg
 Housing design in past and contemporary cultures.

- 220 (H.D. 360). Home Furnishings.** (2:1:3) F.S.Su. Barlow
Selection and care of home furnishings with laboratory practice in re-finishing furniture and constructing draperies, lamp shades, slip covers, bedspreads, etc.
- 221 (H.D. 120). Weaving.** (2:1:3) F.S. Barlow
Creative design applied to woven fabrics with experience in weaving methods. Survey of hand-woven fabrics in various world cultures.
- 235 (H.D. 135, 335). Household Equipment.** (3:2:4) F.S.Su. Vincent
Laboratory experience in the use of different types of household equipment.

Upper Division Courses

- 330 (H.D. 330, 331, 332). Principles of House Planning.** (3:3:0) F.S. Staff
Analysis of community zone laws and problems in site selection; development of house plans with reference to costs, terrain, sun and view orientation, space treatments, and uses of building materials.
- 350 (E.M.H. 330, 350). Home Management.** (2:2:0) F.S. Staff
Management of time, energy, materials and abilities for the attainment of personal and family goals.
- 351 (E.M.H. 325). Family Finance.** (2:2:0) F.S. Prerequisites: Economics 101; Housing and Home Management 350. Thomson
Economic problems of direct concern to the family of today. Types and adequacy of income; its apportionment in terms of family needs and interests.
- 370 (E.M.H. 470). Management House.** (3:4:20) F.S.Su. Prerequisites: Food and Nutrition 255, 264, 340; Housing and Home Management 351. Lewis
Experience in applying principles of management in a family-size group in a family-type house. Five weeks. \$40.00 laboratory fee.
- 380, 381 (H.D. 380). Interior Decoration.** (3:3:0 ea.) F.S.Su. Prerequisites: Art 110; Housing and Home Management 330. Staff
Structure, composition, and quality of furniture, floor covering, fabrics, and other decorative materials as related to their stylistic treatment, placement, and use in the home.
- 410 (H.D. 410, 411, 412). Planning Laboratory.** (3:0:6) S. Prerequisites: Art 122; Housing and Home Management 101. Viehweg
Laboratory exercises with problems in family housing.
- 590 (New). Seminar.** (2:0:3) S. Prerequisites: Housing and Home Management 101, 330, 380, 381, 410. Stanford
Discussion of reports on recent and current literature on housing and home management.
- 595 (H.D. 590, E.M.H. 580). Readings.** (1-3:0:3-9) F.S.Su. Prerequisites: twelve hours in Housing and Home Management. Stanford
Consultation and directed use of library materials.

Human Development and Family Relationships

Professors: Porter (chairman, 1239 SFLC), Cannon.

Associate Professor: Anderson.

Instructors: Arnold, Barlow, Holbrook, Jensen, Kunz, Larsen, Orrock, Taylor, Tyndall, Vance.

Among the purposes of the Department of Human Development and Family Relationships (H.D.F.R.) are the following:

1. To provide opportunities for increased understanding and appreciation of abundant and harmonious living within the family, including its relationship to the church and the community.
2. To help students gain increased self-understanding and appreciation of insight and skills basic to effective human relationships.
3. To provide opportunities for the study of human development and family relationships from infancy through old age which will:
 - (a) facilitate the achievement of successful marriage and parenthood.
 - (b) lead to professional competency for those who are interested in vocational opportunities in this field.
4. To provide opportunities for research which will ultimately contribute to increased understanding of human development and family relationships.
5. To provide graduate training leading to a master's degree and Ph.D. degree in human development and family relationships.

The B.Y.U. human development laboratories are among the most modern and up-to-date in the nation. Through the laboratories of the University and the facilities of the community, opportunities are provided for the study of human development and family relationships from infancy through old age.

Outstanding students in H.D.F.R. have the opportunity to enhance their professional training by attending one semester at the Merrill-Palmer Institute in Detroit, Michigan, with which the College of Family Living has an affiliation.

Suggestions for a Minor

For a minor in human development and family relationships, a selection of 14 credit hours from the following courses is suggested: H.D.F.R. 210, 261, 322, 324, 360, 361, 412, 510, 511, 570.

Requirements for a Major

For a major in human development and family relationships, a minimum of 26 credit hours in the department is required. A maximum of 7 of the 26 hours may be chosen from a selected list of courses in other departments with consent of the departmental adviser. For graduation from the College of Family Living these hours must be combined with enough credits in the college to total 35 semester hours. Each student must complete a minimum of 12 semester credit hours in the College of Family Living outside of the department in which he is taking his major. These 12 credit hours must include a minimum of one course in each of the departments of clothing and textiles, housing and home management, and food and nutrition.

Suggested Program for Majors

Freshman Year		H.D.F.R. 210**	
	Hours	Electives	
Religion**	4		3
Freshman English** (determined by placement test)	6		6-10
Physical education and Health 130**	4	Total Hours	29-35
Physical science group*	6	Junior Year	
Psychology 111**	3	Religion**	4
Art 110*	2	English (literature)*	4
Clothing and textiles	4	Housing and home mgt.	2
Food and nutrition*	2	Food and Nutrition 245 (women)	2
Homemaking Education 91	0	H.D.F.R. 322*	3
H.D.F.R. 261	2	360*	3
Total Hours	33	361*	2
		412*	3
		Electives	6-10
		Total Hours	29-33
Sophomore Year		Senior Year	
Religion**	4	Religion**	4
Bacteriology 121*	3	H.D.F.R. 492**	2
Zoology 105* or 164	3	510**	3
Sociology 111	3	511**	3
History 170*	3	570**	3
Humanities and aesthetics*	2-4	Electives	16
Housing and home mgt.	2	Total Hours	31

*required

**required year listed

Specialized Programs

Students specializing in child development and/or nursery education must also take H.D.F.R. 322, 422, 423.

Students specializing in professional work with families must also take H.D.F.R. 440, 461, 580.

Students interested in completing a major in human development and family relationships and also qualifying for an elementary teaching certificate may do so.

For H.D.F.R. Majors Who Wish to Qualify Also for

Elementary Teaching Certificate

The successful completion of the following program will (a) provide a major in human development and family relationships, (b) qualify a student for an elementary teaching certificate with a kindergarten efficiency statement attached, (c) satisfy the General Education requirements for the University, and (d) complete the College of Family Living graduation requirements. **Students will be prepared to teach nursery school, kindergarten, and grades one through six.** To enter and to continue in the teacher certification program and the Human Development Laboratory Program, a student must have a 2.25 cumulative grade-point average and must maintain this average each succeeding semester. A student who falls below this average will be suspended from the sequence courses, but may re-enter the program after he brings his grades up to the required level. A student

who is suspended from the program a second time may not again re-enter without the specific approval of the appeals committee.

In determining grade-point average, transfer credit may be used for only the first semester of attendance at B.Y.U. After this initial semester, the grade-point average will be determined by using B.Y.U. grades only.

Students will be assigned to Cycle I or II in order to distribute registration in certain classes evenly throughout the year. Therefore, the semester in which one enrolls in a particular course may vary slightly from the outline which follows.

Freshmen

First Semester

	Hours
Religion	2
English 111	3
Chem. 100, Geology 101, Physics 101 or Physical Science 101 ..	3
Zoology 105	3
Elective (H.D.F.R. 261 recommended)	2
Physical education	$\frac{1}{2}$
Clothing and Textiles 105, 110 or 165, 300	4
Homemaking Education 91	0
Total Hours	17½

Second Semester

Religion	2
English 112	3
Chem. 100, Geology 101, Physics 101 or Physical Science 102 ..	3
Health 130	2
Psychology 111	3
Food and Nutrition 110	2
Physical education	$\frac{1}{2}$
Elective	2
Total Hours	17½

Sophomores

First Semester

Religion	2
Physical education	$\frac{1}{2}$
Bacteriology 121	3
History 170	3
Music 102	2
Food and Nutrition 245	2
Art 266	2
Speech 121	3
Total Hours	17½

Second Semester

Religion	4
Physical education	$\frac{1}{2}$
Music 237	2
H.D.F.R. 210	3

Art 110	2
Housing and home mgt. (350 recommended)	2
Instruction 301	1
Instruction 325	2
Total Hours	16½

Juniors

First Semester

Religion	2
History 360 or 366	2
English literature	3
Instruction 340	2
H.D.F.R. 361	2
Housing and home mgt. (351 recommended)	2
Health Education 361	2
Physical Education 375	2

Total Hours	17
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Second Semester

Religion	2
H.D.F.R. 322	3
Instruction 422	2
Instruction 320 (1st half)	3
Instruction 321 (2nd half)	3
Instruction 406	2
H.D.F.R. 360	3

Total Hours	18
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Seniors

First Semester

Instruction 449	8
H.D.F.R. 422	4
H.D.F.R. 412	3
Total Hours	15

Second Semester

Religion	2
Instruction 405	2
E.R.S. 304	2
H.D.F.R. 423	2
H.D.F.R. 570	3
H.D.F.R. 492	2
Ed. Phil. 410	3

Total Hours	16
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Courses in this department are of value both to men and women.

Lower Division Courses

- 210 (210, 211). Child Development.** (3:3:1) F.S. (G-SS) Prerequisite: Psychology 111; recommended prerequisite: Sociology 111.

Arnold, Barlow, Tyndall, Vance

Consideration of the growth and development of the child and his relationships with his family, peers, and teachers from infancy through adolescence. One hour observation per week as part of preparation.

- 261 (261). The Latter-day Saint Family.** (2:2:0) F.S. Staff

Place of the family in L.D.S. doctrine and philosophy, together with application of basic religious principles to marriage and family relationships. A comparison of L.D.S. and non-L.D.S. families in time and space.

These courses also count in H.D.F.R.:

A maximum of seven credit hours from courses listed under the headings **These courses also count in H.D.F.R.** may be selected to apply toward a major in H.D.F.R.

Anthropology 101 (100). Introductory Anthropology. (3:3:0)

Nursing 288 (288). Family Health and Home Nursing. (2:2:0)

Upper Division Courses

- 322 (322). Creative Experience with Children.** (3:2:6) F.S.Su. Prerequisite: H.D.F.R. 210 or equivalent. Staff

Designed to promote increased self-understanding, develop skills in working with children, and gain experiences in the use of creative play materials through participation in the human development laboratories. Lab fee \$4.50.

- 324 (324). Creative Play in Childhood.** (2:2:0) F.S. Prerequisite: H.D.F.R. 210. Staff

Use of creative play materials in enriching a child's life. Meaning of play and its value in meeting needs of the growing child.

- 360 (160, 360). Achieving Success in Marriage.** (3:3:0) F.S.Su. (G-SS)

Anderson, Cannon, Porter

Consideration of maturity, love, compatibility, conflict, specific areas of adjustment in marriage, parent-child relationships, and effective management of family resources.

- 361 (361). Family Relationships.** (2:2:0) F.S.Su. (G-SS) Prerequisite: 6 hours in H.D.F.R., psychology, and sociology. Staff

Inter-personal relationships in the family; their significance in developing values, goals, attitudes, and patterns of behavior through the various stages of the family cycle.

- 412 (412). Principles of Child Guidance.** (3:3:0) F. Prerequisite: H.D.F.R. 210. Jensen

Application of knowledge and understanding of child behavior and psychodynamics of family interaction to guidance of children. Behavior and guidance principles are studied directly in the human development laboratories. Helpful to parents and prospective parents.

- 422 (422). Methods and Teaching Experiences in the Human Development Laboratory.** (4:2:8) F.S. Prerequisites: H.D.F.R. 412, and consent of instructor. Kunz

Experience in teaching and supervising a group of nursery school children. Students arrange with instructor to spend twelve hours a week in the nursery school laboratories. Lab fee \$9.00.

- 423 (423). Organization and Planning for Pre-School Programs.** (2:2:0) S. Kunz

Consideration of factors involved in the development of pre-school pro-

grams. Study of essential procedures in pre-school planning including housing, equipment, health protection, and food service. Field trip.

- 440 (440). **Family Life in the Middle and Later Years.** (2:2:0) S. Prerequisite: 4 hours in H.D.F.R., psychology, and sociology. Cannon
Adjustments in middle and later years revolving around physical, emotional, and social changes. Emphasis is placed upon needs that arise from changes in family relationships, living arrangements, and employment.
- 461 (461). **The Family and the Law.** (2:2:0) F. Staff
Consideration of legal aspects of marriage and family life such as marriage statutes, property rights, separation and divorce, adoption, custody of children, wills, etc.
- 492 (492). **Seminar in Theory and Concepts.** (2:2:0) S. Prerequisite: 10 hours in H.D.F.R. Anderson, Cannon, Porter
Evaluation and integration of basic theories and concepts in H.D.F.R.
- 493 (493). **Seminar in Evaluating Research.** (2:2:0) F. Prerequisite: 10 hours in H.D.F.R. Anderson, Cannon, Porter
Critical analysis and evaluation of all varieties of research studies in H.D.F.R.

These courses also count in H.D.F.R.:

A maximum of seven credit hours from courses listed under the headings **These courses also count in H.D.F.R.** may be selected to apply toward a major in H.D.F.R.

- Instruction 325 (325). Arts and Crafts for Early Childhood.** (2:2:1)
- Instruction 340 (340). Children's Literature.** (2:2:0)
- Psychology 321 (321). Psychology of Adolescence.** (2:2:0)
- Psychology 340 (340). Mental Health.** (2:2:0)
- Psychology 350 or Sociology 350 (350, 350). Social Psychology.** (3:3:0)
- Psychology 445 (445). Exceptional Children.** (2:2:0)
- Recreation 371 (371). Planning for Family and Neighborhood Recreation.** (2:2:0)
- Sociology 403 (403). Marriage and the Family in American Society.** (2:2:0)

Advanced Undergraduate or Graduate Courses

- 510, 511 (405, 510). **Advanced Child Development.** (3:3:0 ea.) F.S. Prerequisite: H.D.F.R. 210. Kunz, Porter
Intensive study of principles of child development and behavior as they relate to home situations, nursery schools, day-care centers, and other children's programs. Observation of individuals from infancy through adolescence.
- 520 (New). **Workshop in Child Development.** (2:2:0) Su. Prerequisite: 8 hours in H.D.F.R. or permission of department chairman. Staff
Intensive study of application of principles of child development and child guidance.
- 570 (570, 572). **Community and Professional Responsibilities to Children and Families.** (3:3:0) S. Prerequisites: H.D.F.R. 210, 361; Sociology 111. Porter
Acquaintance with resources of the community as they relate to the welfare of children and families. A consideration of the responsibilities of professional persons working with children and families.
- 575 (575). **Parent Education.** (2:2:0) S. Prerequisite: consent of instructor. Kunz, Porter

Basic principles in organization of parent study programs. Formulation and presentation of programs for parents.

- 580 (580). **Introduction to Marriage and Family Counseling.** (2:2:0) F. Pre-requisite: consent of instructor. Anderson
Theories and techniques used in marriage and family counseling. Consideration of individual and group counseling as it pertains to the family.
- 590 (590). **Readings in Human Development and Family Relationships.** (1-2:1-2:0) F.S.Su. Prerequisite: consent of instructor. Anderson, Cannon, Porter
Discussions and reports of current readings in this field. Open to students who have completed fifteen hours of human development and family relationships.
- 595 (595). **Special Topics in Human Development and Family Relationships.** (1-2:1-2:0) F.S.Su. Anderson, Cannon, Porter
Individual study for qualified students majoring in human development and family relationships upon consultation with the instructor and the chairman of the department.
- 596 (596). **Research Problems and Methods in Human Development and Family Relationships.** (2:2:0) F. Cannon
Analysis of research methods used in human development and family relationships. Students have active experience in formulating a research project.

These courses also count in H.D.F.R.:

A maximum of seven credit hours from courses listed under the headings **These courses also count in H.D.F.R.** may be selected to apply toward a major in H.D.F.R.

Educational Research and Services 540 (540). Statistical Methods. (2:2:0)

Educational Research and Services 541 (541). Advanced Statistics. (2:2:0)

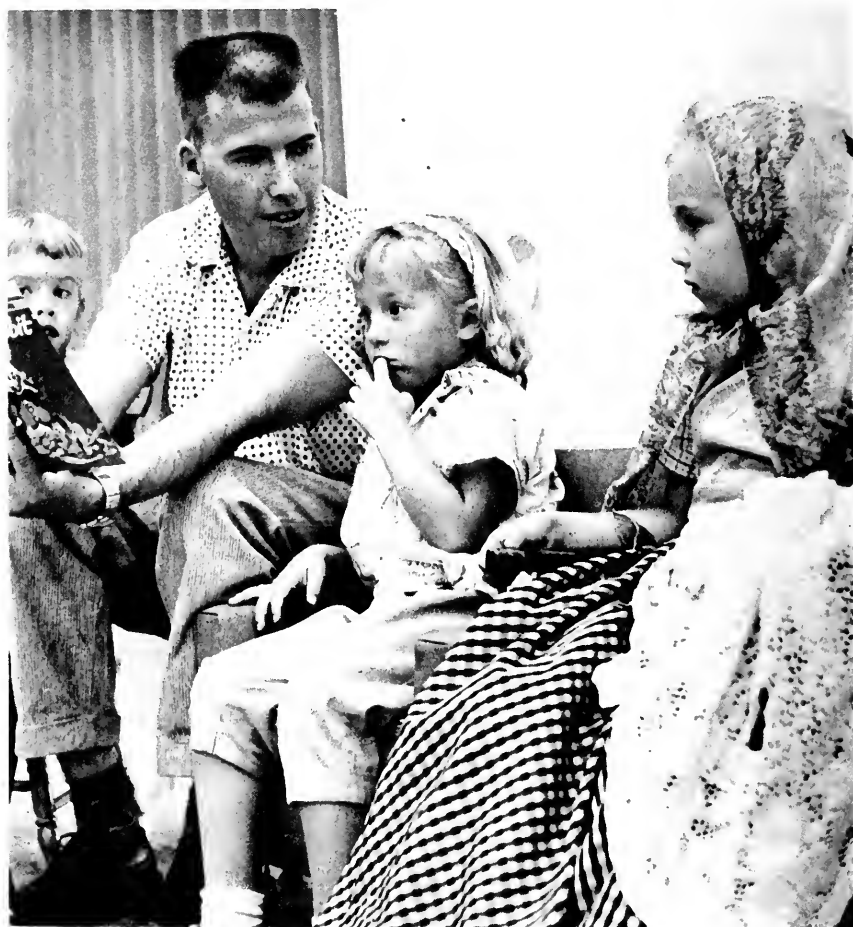
Psychology 550 (550). Psychology of Personality. (3:3:0)

Sociology 560 (560). Family and Kinships. (2:2:0)

Graduate Courses

- 611 (611). **Current Concepts and Research in Child Development.** (2:2:0) F. Porter
- 661 (661). **Dynamics of Family Interaction.** (2:2:0) S. Prerequisite: H.D.F.R. 360. Porter
- 663 (663). **Critical Problems in Family Life.** (2:2:0) F. Prerequisite: H.D.F.R. 361. Cannon
- 664 (664). **Current Concepts and Research in Family Relationships.** (2:2:0) S. Porter
- 667 (667). **Problems of Teaching Marriage and Family Relationships in College.** (2:2:0) Su. Staff
- 685 (685). **Developmental Use of Play Experiences.** (2:2:0) S. Prerequisite: consent of instructor. Staff
- 692, 693 (692, 693). **Seminar.** (2:2:0 ea.) F.S. Anderson, Cannon, Porter
- 697 (697). **Independent Research.** (1-3:1-3:0) F.S.Su. Anderson, Cannon, Porter
- 699 (699). **Thesis for Master's Degree.** (1-4:1-4:0) F.S.Su. Anderson, Cannon, Porter

- 780 (780). **Marriage and Family Counseling.** (2:2:0) S. Prerequisites: H.D.F.R. 580; E.R.S. 625; consent of instructor. Anderson
- 781 (781). **Case Analysis in Marriage Counseling.** (2:2:0) S. Prerequisite: H.D. F.R. 780. Anderson
- 785, 786 (785, 786, 787). **Internship in Marriage Counseling.** (3:1:6 ea.) F.S. Prerequisites: H.D.F.R. 780 and 781. Staff
- 792 (792). **Seminar in Marriage Counseling.** (2:2:0) S. Anderson
- 794 (794). **Special Topics in Human Development.** (1-2:1-2:0) F.S.Su. Anderson, Cannon, Porter
- 795 (795). **Special Topics in Family Relationships.** (1-2:1-2:0) F.S.Su. Anderson, Cannon, Porter
- 797 (797). **Doctoral Candidate Research.** (2-4:2-4:0) F.S.Su. Anderson, Cannon, Porter
- 799 (799). **Dissertation for the Ph.D. Degree.** (Arr.) F.S.Su.



Humanities

Bruce B. Clark, in charge (305 McKay)

(An interdepartmental area only.)

Lower Division Course

101 (101). An Introduction to the Humanities. (3:3:0) F.S.Su. (G-HA)

Jacobs, Staff

A study of the forms of creative expression as revealed in literature, painting, sculpture, architecture, and music. (One hour's credit from this class may be applied toward fulfilling the General Education requirement in literature. The two remaining hours may be counted toward fulfilling the humanities requirement, but the student must also take work in a third department of those listed under humanities and aesthetics.)

(Note: For the interdepartmental major in humanities, see "Humanities Major" in the College of Humanities and Social Sciences section of this catalog.)



Industrial Education

Professors: Jeppsen (coordinator of technical and industrial education), Snell (emeritus).

Assistant Professors: McArthur (chairman, 221 SIE), Gamett, Pierce.

Instructors: Allen, Long, McKinnon, Pearson.

The Industrial Education Department provides three different programs of instruction.

1. **The Industrial Education Program**, offering instruction toward the bachelor's degree in industrial arts teacher education and the master's degree in industrial education. These programs are designed to prepare successful teachers and supervisors for state certification.
2. **The Technology Program**, offering instruction toward the bachelor's degree in construction, drafting, and machine tool technology; and the two-year technical certificate in these same fields and in welding.
3. **The General Service Courses**, open to all college students. These courses offer basic training in fundamental operations and processes, and are designed to give exploration, guidance, and consumer knowledge in modern industrial fields.

The general objectives of these programs are to render maximum service to students in their preparation for good citizenship and community living and to better prepare them for a more successful and productive life.

REQUIREMENTS FOR THE INDUSTRIAL ARTS EDUCATION CERTIFICATE

Students planning to become teachers are encouraged to seek advisement early concerning the teacher education program. Any attempt to complete one phase of the program ahead of schedule complicates the smooth functioning of the program. Students beginning their professional preparation in the senior year may find it necessary to devote part of a fifth year to complete the program.

GENERAL EDUCATION REQUIREMENTS

See "General Education Requirements" in the Student Academic Services section of this catalog. These requirements are the same for all students who graduate from the University. They should be distributed throughout the four-year program.

EDUCATIONAL REQUIREMENTS FOR CERTIFICATION

See the requirements listed by the College of Education.

Note, however, that Industrial Education 377 and 479 must be taken in the Industrial Education Department, not in the Department of Instruction.

INDUSTRIAL ARTS TEACHER EDUCATION

Major—industrial arts.

Minor—crafts, drawing, electricity, metalwork, or woodwork

(See listing in College of Education)

Freshman Year			Junior Year		
	F	S		F	S
I.E. 105, 100	2	3	I.E. 360, 341	3	2
I.E. 139, 120	2	2	I.E. 250	2	
Drawing 110, 109	2	1	Instruction 301	2	
I.E. 196, 197	2	2	I.E. 377		3
English 111, 112	3	3	Health 362	2	
Physical education	1	1	General education	2	4
History 170, general			Minor	5	6
education	3	4	Religion	2	2
Religion	2	2			
			Total Hours	18	17
Total Hours	18	17			
Sophomore Year			Senior Year		
	F	S		F	S
I.E. 130, 125	2	2	I.E. 479	8	
I.E. 200, 240	3	3	I.E. 405		2
Drawing 111, I.E. 260	2	3	I.E. 470		2
General education	7	7	E.R.S. 550		2
Health 130	2		E.R.S. 403	4	
Religion	2	2	Instruction 405		2
			Ed. Adm. 410	3	
			Minor		5
			General education		2
			Religion	2	2
Total Hours	18	17	Total Hours	17	17

MASTER OF SCIENCE DEGREE IN INDUSTRIAL EDUCATION

Majors—industrial arts education or technical education

Suggested minors—education and psychology, guidance and counseling, personnel and industrial relations, supervision and administration, business administration, or industrial management

Major requirements: 18 to 22 semester hours selected from the following:

Courses	Hours
510. History and Trends in Industrial and Technical Education	2
515. Principles and Objectives of Industrial and Technical Education ..	2
520. Analysis in Industrial and Technical Education	2
525. Course Construction in Industrial and Technical Education	2
540. Industrial Occupational Information and Guidance	2
594, 595. Problems in Industrial and Technical Education	2-4
690, 691. Seminar in Industrial and Technical Education	1-3
E.R.S. 540. Statistical Methods	2

Minor requirements: 10 to 14 semester hours selected in consultation with adviser. See above list of suggested minors.

Research and Thesis:

E.R.S. 540. Statistical Methods	2
E.R.S. 641. Educational Research and Thesis Writing	2
I.E. 693, 694. Reading and Conference	2-4
I.E. 699. Thesis in Industrial Education	2-4

Entrance Requirements:

In addition to the requirements for the master's degree listed in the Graduate School section of this catalog, the Industrial Education Department requires:

- Satisfactory completion of 12 semester hours in industrial and technical education undergraduate courses prior to or concurrent with the graduate work.
- Satisfactory completion of a qualifying examination given by the Industrial Education Department.

INDUSTRIAL TECHNOLOGY

LIGHT BUILDING CONSTRUCTION TECHNOLOGY

(Four-year technician degree)

Freshman Year		Junior Year	
F	S	F	S
I.E. 100, 105	3	I.E. 301, 317	3
I.E. 139, 125	2	C.E. 211, Drawing 310 ..	3
Drawing 155	2	E.T. 205, 206	3
Math 121, 122	3	General education	4
English 111, 112	3	Minor	5
General education	2	Religion	2
Physical education	$\frac{1}{2}$		
Religion	2	Total Hours	18
Total Hours	17 $\frac{1}{2}$		18

Sophomore Year		Senior Year	
F	S	F	S
I.E. 201, 218	3	I.E. 410, 411	3
I.E. 210, 211	3	Drawing 455, 355	2
Drawing 156, 255	3	Economics 461,	
Health 130, I.E. 341	2	Accounting 201	2
Physics 105, 106	3	Bus. Mgt. 367	2
Math 223,		General education	6
General education	3	Minor	3
Religion	2	Religion	2
Total Hours	19	Total Hours	18

(For the two-year technical certificate program see the Technical and Semi-Professional Institute section of this catalog.)

DRAFTING TECHNOLOGY

(Four-year technician degree)

Freshman Year		Junior Year	
F	S	F	S
Drawing 110, 111	2	I.E. 210	3
Drawing 155, 156	2	Drawing 355, 356	3
Math 121, 122	3	Drawing 310, 311	3
English 111, 112	3	E.T. 205, 206	3
Health 130	2	General education	1
Physical education	$\frac{1}{2}$	Minor	3
General education	4	Religion	4
Religion	2		2
Total Hours	18 $\frac{1}{2}$	Total Hours	18

Sophomore Year		Senior Year	
F	S	F	S
I.E. 130, Math 223	2	I.E. 411,	
I.E. 100, 125	3	Economics 461	3
Drawing 255, 256	3	Drawing 410, 449	3
Drawing 210, 257	2	Drawing 455, 495	3
Physics 105, 106	3	General education	4
General education	3	Minor	4
Religion	2	Religion	2
Total Hours	18	Total Hours	18

(For the two-year technical certificate program see the Technical and Semi-Professional Institute section of this catalog.)

MACHINE TOOL TECHNOLOGY

(Four-year technician degree)

Freshman Year			Junior Year		
	F	S		F	S
I.E. 130, 132	2	2	I.E. 332, 333	3	3
I.E. 131, 133	3	3	I.E. 335, 336	3	2
Drawing 110, 111	2	2	E.T. 205, 206	3	3
Math 121, 122	3	3	General education	4	4
English 111, 112	3	3	Minor	2	4
General education	3	2	Religion	2	2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Elective	2	
Religion	2	2			
Total Hours	18½	17½	Total Hours	19	18

Sophomore Year			Senior Year		
	F	S		F	S
I.E. 230, 231	5	5	I.E. 431, 432	3	3
I.E. 120, 125	2	2	E.T. 216, I.E. 337	4	2
Drawing 311	3		Drawing 410,		
Physics 105, 106	3	3	Economics 461	3	2
General education		5	General education	3	3
Math 223, Health 130	3	2	Minor	2	6
Religion	2	2	Religion	2	2
Total Hours	18	19	Total Hours	17	18

(For the two-year technical certificate program see the Technical and Semi-Professional Institute section of this catalog.)

WELDING TECHNOLOGY

(For the two-year technical certificate program see the Technical and Semi-Professional Institute section of this catalog.)

INDUSTRIAL EDUCATION

Lower Division Courses

- 99 (99). Shop Mathematics. (0:2:0) S. Staff
- 100 (103, 104). Woodwork Fundamentals. (3:1:5) F.S. McKinnon, Pearson
Care and use of hand and machine woodworking tools applied in fundamental principles of sawing, joining, fitting, and fastening.
- 105 (101). Wood Finishing. (2:1:3) F.S. Gamett
Preparation of surfaces for the application of finishes, stains, paints, varnishes, lacquers, polishes, etc. Use of brush and air gun.
- 119 (119). Upholstery I. (2:1:3) F.S. Gamett
Typical forms of upholstery, including foundations with and without springs.
- 120 (120). Acetylene Welding I. (2:1:3) F.S. Long
Principles and practices in the fundamentals of oxy-acetylene welding and cutting of steel. A general course open to all college students.
- 121 (New). Acetylene Welding Laboratory. (3:0:9) F. Prerequisite: concurrent registration in I.E. 120. Long
Laboratory experience in oxy-acetylene fusion welding, heating, brazing, and cutting of light gauge and plate steel.

- 125 (125). **Electric Welding I.** (2:1:3) F.S. Long
Principles and practices with electric welding equipment. Methods used in arc-welding of steel in flat position. A general course open to all college students.
- 126 (New). **Electric Welding Laboratory.** (3:0:9) S. Prerequisites: I.E. 121; concurrent registration in I.E. 125. Long
Laboratory experience in arc-welding of steel plate with emphasis on commonly used joints.
- 130 (130). **Machine Shop I.** (2:1:3) F.S. Allen, McArthur
Use of hand tools in bench work, with engine lathe, drill press, and grinding operations.
- 131 (New). **Machine Shop I Laboratory.** (3:0:9) F. Prerequisite: concurrent registration in I.E. 130. Allen
Laboratory experience in operation of the lathe and drill press and use of fundamental hand tools including layout.
- 132 (330). **Machine Shop II.** (2:1:3) S. Prerequisite: I.E. 130. Allen
Operations in the use of lathes, shapers, and milling machines.
- 133 (New). **Machine Shop II Laboratory.** (3:0:9) S. Prerequisite: concurrent registration in I.E. 131. Allen
Laboratory experience in operation of lathes, shapers, milling machines and grinders.
- 139 (140). **Sheet Metal and Ornamental Iron.** (2:1:3) F.S. McKinnon
Projects in sheet metal, ornamental iron work, and pattern layout.
- 160 (260). **Recreational Handicrafts.** (2:1:3) F.S. McKinnon
Students may work in a selected area according to their interests—woodwork, metalwork, plastics, lapidary work, etc. Course is open to all students interested in leisure time activities.
- 188 (150, 205). **Farm Machinery.** (3:1:5) F. Staff
Care and maintenance of general farm equipment.
- 189 (207). **Gas and Diesel Engines.** (3:1:5) F.S. Long
Care and maintenance of gas and diesel engines. Includes overhaul and rebuilding procedures.
- 196, 197 (New). **Shop Problems.** (2:2:0 ea.) F.S. Staff
Basic mathematical formulas and procedures used in solving practical problems in mechanical and industrial work, including application of principles of algebra, geometry, and trigonometry.
- 200 (104, 105). **Woodwork Projects.** (3:1:5) F.S. Prerequisite: I.E. 100. McKinnon, Pearson
Use of hand and machine tools in the construction of furniture. Drawings, specifications, and cost estimates of all projects are submitted by the student.
- 201 (302, 303). **Cabinet Construction.** (3:1:5) F. Prerequisite: I.E. 200. McKinnon, Pearson
Design and construction of cabinets used in residential structures.
- 210 (308). **Carpentry Framing.** (3:1:5) F. Prerequisite: Drawing 155. McKinnon
Practical problems in forming, framing, sheathing, and insulation.
- 211 (309). **Carpentry Finishing.** (2:1:3) S. Prerequisite: I.E. 210. McKinnon
Practical problems in interior and exterior trim.
- 218 (403). **Plumbing.** (2:1:3) S. McKinnon
Plumbing and plumbing layout.

- 221 (New). **Acetylene Welding II.** (5:2:8) F. Prerequisite: I.E. 121. Long
Advanced practices in all phases of oxy-acetylene welding, including ferrous and non-ferrous metals.
- 222 (New). **Welding Construction.** (3:1:5) S. Prerequisites: I.E. 121 and 126. Long
Methods of layout, forming, cutting, and joining steel and alloy plates and shapes as applied to structures and machinery construction.
- 226 (New). **Electric Welding II.** (5:2:8) S. Prerequisite: I.E. 126. Long
Principles and practices in position welding of commonly used joints with some work in hard facing, stainless steel, and nickel alloys.
- 227 (New). **Inert-Gas Welding.** (3:1:5) S. Prerequisites: I.E. 121 and 126. Long
Principles and practices of inert-gas (heliarc) welding of ferrous and non-ferrous metals.
- 230 (332). **Machine Shop Production.** (3:1:5) F. Allen
Construction and assembly of a basic machine with emphasis on production methods.
- 231 (New). **Manufacturing Processes.** (5:3:6) S. Prerequisite: I.E. 230. Allen
A study of, and laboratory experiences in, problems dealing with manufacturing of machines and machine products.
- 240 (360). **Electricity Fundamentals.** (3:2:4) F.S. McArthur
Fundamentals of electricity, including DC and AC motors and generators.
- 250 (270). **Graphic Arts.** (2:1:3) F.S. Staff
Fundamentals of the printing industry such as type-setting, book-binding, etc.
- 260 (108, 260, 464). **Crafts.** (3:1:5) S. McKinnon
Fundamental hand and machine operations used in working plastics, wood, and leather.

Upper Division Courses

- 301 (303, 304). **Mill Work.** (3:1:5) F. Prerequisites: I.E. 200, Drawing 111. McKinnon, Pearson
Advanced cabinet work and milling operations.
- 317 (401). **Masonry.** (2:1:3) S. Staff
Practice in laying cinder or concrete block walls.
- 319 (319). **Upholstery II.** (2:1:3) F.S. Prerequisite: I.E. 119. Gamett
Advanced work in upholstery.
- 325 (320). **Gas and Electric Welding.** (2:1:3) F. Long
Advanced work in acetylene and electric welding. For students not majoring in welding technology.
- 332 (New). **Production Planning.** (3:2:4) S. Prerequisite: I.E. 231. Allen
A study of production methods and problems arising through assembly processes.
- 333 (New). **Inspection and Control.** (3:2:4) S. Prerequisite: I.E. 332. Allen
Inspection methods and control of machine products. Needed for machine tool technology degree.
- 335 (432). **Metallurgy.** (3:3:3) F. Allen
The properties of metal and effects of temperature change.
- 336 (New). **Heat Treatment.** (2:1:3) S. Prerequisite: I.E. 335. Allen
Thermal effects in processing of steel products.
- 337 (350). **Pattern Making and Foundry Practice.** (2:1:3) S. Prerequisite: I.E. 100. Staff

Principles of pattern making taught through wood patterns and sand castings of machine parts.

- 341 (365). **House Wiring.** (2:2:2) F.S. McArthur
Electrical circuits in homes and farm buildings.
- 360 (260, 466). **Metal Crafts and Lapidary.** (3:1:5) F. McKinnon
Projects in metals, lapidary, and enameling.
- 377 (377). **Secondary Teaching Procedures.** (3:3:0) F.S. Prerequisite: Instruction 301. Jepps
Preparation and use of instructional materials and study of basic classroom procedures.
- 405 (301). **Shop Maintenance.** (2:1:3) F.S. Gamett
Care and maintenance of tools and machines.
- 410 (306). **Construction Materials and Methods.** (3:3:0) F. McKinnon
Theoretical aspects of buildings, locations, soil conditions, footings, materials, and equipment.
- 411 (307). **Estimating.** (3:3:0) S. Offered alternate years. Prerequisite: Drawing 155. McKinnon
Interpreting plans and specifications. Methods of estimating and figuring costs of materials and labor.
- 431 (New). **Tool Construction.** (3:1:5) F. Prerequisites: I.E. 231, 336, or consent of instructor. Allen
Construction and design principles affecting machine tools.
- 432 (New). **Die Construction.** (3:1:5) S. Prerequisites: I.E. 231, 336. Allen
Construction and design principles affecting the manufacture of dies.
- 470 (370). **Shop Organization and Management.** (2:2:2) S. Jepps
Organization and management of industrial education shops, including unit, general, and multiple activity types.
- 479 (479). **Objectives and Practices in Teaching I.A.** (8:0:30) F.S. Gamett
Student teaching. Material is prepared, and principles and objectives of the industrial arts program are formulated and discussed.
- 490 (490). **Special Problems in Metals.** (Arr.) F.S.Su. Staff
- 491 (490). **Special Problems in Wood.** (Arr.) F.S.Su. Staff
- 492 (490). **Special Problems in Electricity.** (1-3:Arr.:Arr.) F.S.Su. Staff
- 493 (490). **Special Problems in Crafts.** (1-3:Arr.:Arr.) F.S.Su. Staff
- 494 (490). **Special Problems in Graphic Arts.** (1-3:Arr.:Arr.) F.S.Su. Staff

Advanced Undergraduate or Graduate Courses

- 510 (New). **History and Trends in Industrial and Technical Education.** (2:2:0) F.Su. McArthur
The historical developments of industrial and technical education programs from their early beginnings to the present time.
- 515 (New). **Principles and Objectives of Industrial and Technical Education.** (2:2:0) F.Su. McArthur
The general philosophy, principles, and objectives of industrial arts, vocational education, and technical education programs.
- 520 (New). **Analysis in Industrial and Technical Education.** (2:2:0) F.Su. Prerequisite: I.E. 515 or approval of instructor. Jepps
The basic principles involved in analyzing industrial and technical occupations for the purpose of determining functional teaching content.

- 525 (New). **Course Construction in Industrial and Technical Education.** (2:2:0) S.Su. Prerequisite: I.E. 520 or approval of instructor. Jeppsen
Preparation and use of a course of study in industrial and technical fields based upon an analysis of the occupation.
- 540 (New). **Industrial Occupational Information and Guidance.** (2:2:0) F.Su. McArthur
- 594, 595 (New). **Problems in Industrial and Technical Education.** (1-3:1-3:3-6 ea.) F.S.Su. Staff

Graduate Courses

- 690, 691 (New). **Seminar.** (1:1:0 ea.) Su. Staff
Review of latest developments and research findings in the field of industrial and technical education.
- 693, 694 (New). **Reading and Conference.** (1-3:1-3:0 ea.) F.S.Su. Staff
- 699 (New). **Thesis for Master's Degree.** (Arr.) F.S.Su. Staff

DRAWING

Lower Division Courses

- 100 (107). **Free-hand Lettering.** (1:0:1) F.S. Staff
Practice in lettering as applied in engineering and architectural drawing.
- 109 (109). **Industrial Arts Design.** (1:1:1) S. Gamett
Fundamental elements and processes of design in industrial arts.
- 110 (102). **Mechanical Blueprint Reading.** (2:2:2) F.S. Staff
A fundamental course in blueprint reading. Covers instruction necessary to understand the purposes and the relationships between specifications and drawings as used in industry.
- 111 (113). **Mechanical Drawing Fundamentals.** (2:1:5) F.S. Home Study also. Staff
Prerequisite: Drawing 110.
Care and use of instruments; lettering, applied geometry, and orthographic projection.
- 155 (106). **Architectural Blueprint Reading.** (2:2:2) F.S. Staff
A fundamental course designed to teach students how to read and interpret architectural drawings.
- 156 (244, 245). **Small House Planning.** (3:1:5) F.S. Home Study also. Prerequisite: Drawing 100 or 155. Snell
Small-house plans, elevations, sections, and details.
- 210 (246). **Descriptive Geometry.** (2:1:3) F. Prerequisite: Drawing 111 or 156. Staff
Principles relating to point, line, plane, cylinder, cone, and double curved surfaces, etc., with application to practical problems.
- 255 (245, 248). **Architectural Perspectives.** (3:1:5) F.S. Home Study also. Prerequisite: Drawing 156. Snell
Development of small-house plans with methods of drawing architectural perspectives, shades, and shadows.
- 256 (249). **Rendering.** (2:1:3) F.S. Prerequisite: Drawing 255. Snell
Wash rendering practice plates and rendering of architectural elements.
- 257 (354). **Topographical Drawing.** (2:1:3) F.S. Prerequisite: Drawing 111 or 156. Snell
Topographical symbols, mapping, and plotting.

Upper Division Courses

- 310 (204, 301). **Utilities Layout.** (3:1:5) S. Prerequisite: Drawing 111 or 156. Staff

Intersections, developments, and triangulation; electrical symbols, lighting and service layouts; design and layout of piping systems.

- 311 (380, 382). Mechanical Detail Drawings.** (3:1:5) F. Prerequisite: Drawing 111. Staff
Machine fastenings, technical sketching, working drawings, detailing, jigs, and fixtures.
- 355 (341, 342). Residential Planning.** (3:1:5) F.S. Prerequisite: Drawing 156. Snell
Planning and designing residential structures.
- 356 (342, 343). Commercial Structure Planning.** (3:1:5) F.S. Prerequisite: Drawing 355. Snell
Students design and plan a small commercial building with complete working drawings.
- 410 (382, 401). Mechanical Drawing and Production Illustration.** (3:1:5) F.S. Prerequisite: Drawing 311. Staff
Application of pictorial drawings to problems of assembly in industry.
- 449 (495). Special Problems in Mechanical Drawing.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: Drawing 410. Staff
- 455 (444). Structural Fabrication Planning.** (2:1:3) S. Prerequisites: Mathematics 122, Drawing 311. Staff
- 495 (495). Special Problems in Architectural Drawing.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: Drawing 356. Staff



Instruction

Professors: D. Christensen (chairman, 153 McKay), Callahan, Clarke, Law.

Associate Professors: Campbell, Crnkovic, Daines, Read.

Assistant Professors: Alder, Babcock, Berryessa, L. Christensen, Flandro, Hammond (emeritus), McPhie, Ord, Tyndall, Utley, Wilcox.

Instructors: Lindeman, Memmott, Miles.

Laboratory and Methods Teachers: Bennett, Brown, Carlisle, D. Clark, H. Clark, W. Clark, Davidson, Gagon, Hill, Miller, Nelson, Olsen, Rasband, Sandberg.

The offerings in this department are intended to assist teachers in the development of the skills involved in the act of instruction, whether it be in or out of the classroom, at any level, or in any subject-matter area of education. Courses sponsored exclusively by this department are usually limited to those in which methodology of teaching or problems in organizing materials for teaching are the dominant content.

The offerings in instruction are presented under the following divisions: general, elementary, secondary, college, and special study.

GENERAL INSTRUCTION

Courses listed under "General Instruction" serve the needs of all levels of teaching.

Upper Division Courses

- 300 (300). Teaching in the Church. (2:2:0) F.S. Staff**
Equivalent to the Church Teacher Training Program. Does not apply to state certification.
- 301 (301). Basic Concepts of Teaching. (2:2:1) F.S.Su. Staff**
For potential elementary and secondary teachers, regardless of level or field. An exposition of a simple and operational concept of teaching consisting of these three elements: the objective, the learning experience, and receptiveness to learning.
- 405 (405). Analysis of Teaching. (2:2:0) F.Su. Prerequisite: student teaching completed or two years of teaching experience. Staff**
For both prospective elementary and secondary teachers. Analysis of teaching plans and experiences. Also the discussion of the use of principles to analyze and clarify concepts and practices in teaching.
- 406 (406). Teaching Materials Laboratory (Audio-Visual Aids). (2:2:1) F.S.Su. Staff**
Introduction to and production of audio-visual aids by individuals.

Graduate Courses

- 605 (605). Development of Instructional Materials (Audio-Visual Aids). (2:2:1) F.S.Su. Prerequisite: Instruction 406 or equivalent. Staff**
An advanced course designed to follow Instruction 406. Principles of learning and the unique contributions of instructional materials to the curriculum. Of primary concern is the selection, integration, sources, and administration of instructional materials. Construction and use of specialized materials.
- 608 (608). Radio, Television, and Motion Picture Photography in Education. (2:2:1) Su. Staff**

Utilization in the classroom and in public relations. Current programs, production techniques, recording of programs, and the role of mass media in learning. The development and potential of educational television is considered.

- 612 (612). Supervision of Student Teachers.** (2:2:0) Su. Staff
For those desiring a well-rounded view of the student teaching program with emphasis on the specific role of the cooperating teacher.
- 614, 615, 616 (614, 615, 616). Analysis of In-Service Problems.** (1-3:1-3:1 ea.) F.S.Su. Staff
- 692 (New). Seminar in Reading.** (2:2:0) Su. Staff
A critical evaluation of selected research in reading is made in terms of appropriate research procedures.

ELEMENTARY INSTRUCTION

Upper Division Courses

- 320 (320). Basic Classroom Procedures.** (3:3:0) F.S.Su. Prerequisite: Instruction 301. Staff
For prospective elementary teachers. Identification of teacher and pupil activities required for conceptual learning and for the following related types of subject-matter and teaching: symbolic, performance ability, and habit. Also, lectures, demonstrations, and participation in non-instructional activities at an elementary school.
- 321 (321). Reading and Arithmetic.** (3:3:0) F.S.Su. Prerequisites: Instruction 301, 320. Staff
For prospective elementary teachers. An extension of Instruction 320, with special application to reading and arithmetic.
- 324 (324). Arts and Crafts for Elementary Teachers.** (2:2:1) F.S.Su. Staff
Simple weaving, puppetry, paper mache, clay modeling, and other activities suitable for children. These activities are suited to grades three through six.
- 325 (325). Arts and Crafts for Early Childhood.** (2:2:1) F.S.Su. Staff
Exploring ideas and materials for the young child (nursery school, kindergarten through third grade).
- 338 (338). Manuscript Writing.** (1:1:0) F.S.Su. Staff
A class to develop skill in manuscript, cursive, and blackboard writing for elementary teachers.
- 340 (340). Children's Literature.** (2:2:0) F.S.Su. Staff
Evaluation of significant books, past and present, that meet children's needs.
- 422 (422). Kindergarten Proficiency.** (2:2:0) F.S.Su. Staff
Organization of programs, lesson planning, methods and materials, and best practice in early childhood education (ages four to nine) with emphasis on the theory and practice in kindergarten. (Requirement for H.D.F.R. majors and for certification in kindergarten proficiency.)
- 449 (448, 449). Elementary Student Teaching.** (4-8:0:20-40) F.S. Prerequisites: Instruction 301, 320, 321. Staff
Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Special attention to on-the-job lesson planning and unit organization. Seminar on student-teaching problems is held weekly. (A laboratory fee of \$45.00 is charged, payable upon application for student teaching.)
An application for a special assignment must be filed with the Student Teaching Office one semester in advance of receiving an assignment. Student teachers are expected to do responsible teaching, participate in co-curricular activities, and keep in close contact with the faculty and stu-

dents in a public school as well as to participate in seminars and conferences with their supervisors. During this period of student teaching the student must limit his load to the student teaching registration only.

Advanced Undergraduate or Graduate Courses

- 534 (529, 534). **Improved Practices in Elementary Teaching.** (3:3:1) F.Su. Staff
Study of current concepts in elementary education with observation and analysis of some of the best teaching practices. Designed to meet the needs of persons seeking a refresher course, and prospective administrative personnel in the elementary schools.

- 547 (New). **The Place and Development of Skills in Various Approaches to Reading.** (3:3:0) F.S.Su. Staff
Detailed consideration of the reading skills developed in kindergarten through grade twelve with emphasis on word analysis; the development of these skills in the various approaches to reading.

Graduate Courses

- 622 (622). **Advanced Study in Early Childhood Education.** (2:2:0) F.Su. Staff
Theory and analysis of current practice in schools as related to the significance of early childhood education.

- 623 (623). **Science in the Elementary School.** (2:2:0) S.Su. Staff
Designed to give experienced teachers insight into the teaching of elementary science. Includes concentration in unit instruction and methods of presenting science concepts to children.

- 624 (624, 633). **Advanced Arts and Crafts for Elementary Teachers.** (2:2:1) F.Su. Prerequisite: consent of instructor. Staff
Exploring ideas and materials appropriate for children in the elementary school.

- 626 (626). **Arts and Crafts for the Handicapped.** (2:2:1) F.Su. Staff
Arts, crafts, and other media as they may be adapted to meet the needs of individuals with disabilities.

- 631 (631). **Curriculum Development in the Elementary School.** (2:2:0) F.Su. Staff
Not open to students who have taken Instruction 656.
Principles and procedures for organizing the instructional program; patterns of curriculum organization; and techniques for change, evaluation, and stabilization of the curriculum.

- 635 (635). **Social Studies in the Elementary School.** (2:2:0) S.Su. Staff
A refresher course emphasizing the scope and sequence of the social studies program, its objectives in developing democratic citizenship, and the methods employed in accomplishing this aim.

- 641 (641). **Language Arts in the Elementary School.** (2:2:0) F.Su. Staff
Best practices in modern methods of instruction in listening, speaking, reading, and writing with their related skills.

- 642 (642). **Reading in the Elementary School.** (2:2:0) F.Su. Staff
An overview of the reading program; long term and daily planning problems analyzed; word attack skills reviewed; comparison of different programs discussed. Opportunities are provided students to work on their own problems in teaching reading.

- 644 (644). **Arithmetic in the Elementary School.** (2:2:0) S.Su. Staff
Concepts in arithmetic which children need, and various activities which will help students acquire correct arithmetical concepts. Special attention on the contributions of research in teaching arithmetic.

- 646 (646). Development of Instructional Methods in the Elementary School.** (2:2:0) S.Su. Staff

Not open to students who have taken Instruction 676.

Problems, principles, and issues of method. Assessing readiness, problems of organizing pupils for instruction, guiding and pacing, selection of materials, and evaluation.

SECONDARY INSTRUCTION

Upper Division Courses

- 354 (354). Methods and Materials of Instruction in Secondary Schools.** (3:3:0) F.Su. Staff

Designed to meet certificate needs of secondary teachers in Idaho.

- 377 (377, 478). Secondary Teaching Procedures.** (3:3:1) F.S.Su. Prerequisite: Instruction 301. Staff

Identification of teacher and pupil activities required for conceptual learning and for each of the following types of subject-matter and teaching: symbolic, performance ability, and habit. Lectures, demonstrations, and participation in non-instructional activities at a high school.

- 479 (478, 479). Secondary Student Teaching.** (4-8:0:20-40) F.S. Prerequisites: Instruction 301, 377. Staff

Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Special attention to on-the-job lesson planning and unit organization. (A laboratory fee of \$45.00 is charged, payable upon application for student teaching.)

An application for a specific assignment must be filed in the Student Teaching Office one semester in advance of receiving an assignment. Student teachers are expected to do responsible teaching, participate in co-curricular activities, and keep in close contact with the faculty and students in a public school as well as to participate in seminars and conferences with their supervisors. During this period of student teaching the student must limit his load to the student teaching registration only.

Graduate Courses

- 656 (656). Curriculum Development in the Secondary School.** (2:2:0) S.Su. Staff

Not open to students who have taken Instruction 631.

Analysis of secondary curriculum development in terms of psychological and philosophical principles. Curriculum issues, trends, and current practices are examined.

- 659 (659, 661). Secondary School Curriculum Workshop.** (2:2:0) Su. Staff

Designed for analysis of in-service curriculum problems.

- 663 (663). Directing Out-of-Class Activities in Secondary Schools.** (2:2:0) S. Su. Staff

Examination of successful practices in scheduling and directing out-of-class activities. The effect of current scientific curriculum emphasis on out-of-class activities is explored.

- 667 (667). Teaching of Reading in the Secondary Schools.** (2:2:0) Su. Staff

Methods of teaching reading in the secondary school and their adaptation. Role of the subject-matter specialist in the secondary program.

- 670 (670). Teaching Mathematics and Science in Secondary Schools.** (2:2:0) S. Su. Staff

- 672 (672). Teaching Social Studies in Secondary Schools.** (2:2:0) F.Su. Staff

Designed to broaden the understanding of curriculum and instruction in

secondary school social studies. Relates methods and techniques to the objectives of the social studies.

673 (673). Teaching Speech in Secondary Schools. (2:2:0) Su. Staff

676 (676). Development of Instructional Methods in the Secondary School. (2:2:0) F.Su. Staff

Not open to students who have taken Instruction 646.

A general, intensive analysis of the instructional methods used at the secondary level utilizing principles developed from psychology, sociology, and philosophy.

COLLEGE INSTRUCTION

(For information regarding junior college certification consult the chairman of the Department of Instruction.)

Graduate Courses

682 (682). The Curriculum of the Junior College. (3:3:1) F.Su. Staff

684 (684). Methods of Higher Education Instruction. (3:3:1) F.S.Su. Staff

685 (685). Directed Teaching in Higher Education. (2-4:1-2:5-10) F.S.Su. Staff
Prerequisite: Instruction 684.

SPECIAL STUDY

Upper Division Courses

490, 491 (490, 491). Seminar. (1-2:1-2:0 ea.) F.Su. Staff

493, 494 (493, 494). Independent Reading. (1-2:1-2:0 ea.) F.S.Su. Staff

Graduate Courses

690, 691 (690, 691). Seminar. (1-2:1-2:0 ea.) S.Su. Staff

692 (New). Seminar in Reading. (2:2:0) Su. Staff

693, 694 (693, 694). Independent Readings. (1-2:1-2:0 ea.) F.S.Su. Staff

696, 697 (696, 697). Independent Research. (1-2:1-2:0 ea.) F.S.Su. Staff

698 (698). Field Project. (1-4:Arr.:Arr.) Arr. Staff

699 (699). Thesis for Master's Degree. (1-4:Arr.:Arr.) Arr. Staff

These courses also count in instruction:

Art 668 (668). Teaching Art in Secondary Schools. (1-3:Arr.:Arr.)

Journalism 674 (574). Teaching Methods in Journalism. (2:2:0)

Library Science 571 (671). Bibliography of Sciences. (2:2:0)

Library Science 572 (572). Bibliography of Humanities. (2:2:0)

Library Science 573 (573). Bibliography of Social Sciences. (2:2:0)

Library Science 650 (650). Current Problems in the Technical Services. (2:2:0)

Music 615 (615). Vocal Methods, Materials, and Resources. (2:2:0)

Music 616 (616). Instrumental Methods, Materials, and Resources. (2:2:0)

Journalism

Professor: Smith.

Assistant Professors: Paulson (chairman, 160 SSC), Burnett, Butterworth, Davis.

Instructor: Duerden.

The primary objective of this department is to prepare qualified students for professional careers in major areas of mass communications. This preparation includes a broad base of general education, thorough orientation in the functions and responsibilities of the institutions of communication in modern society, and the development of skills in fact-finding, analysis, and communication. In addition to the undergraduate concentrations listed below, graduate courses are offered leading to the master's degree.

For the general student, the department provides service courses in the development of communication skills, and courses 101 and 410 which are part of the University's general education offerings in humanities and aesthetics.

Students planning to major in the department should complete the General Education requirements prescribed by the University, the departmental core curriculum, and one of the following concentrations: news-editorial, advertising and public relations, radio-television, or journalism education. Students transferring credit from another institution should confer with the department chairman to determine appropriate evaluation of work taken in the major field.

GENERAL EDUCATION

See "General Education Program" in the Student Academic Services section for courses which may be taken during the freshman, sophomore, junior, and senior years to fill prescribed areas in general education.

Journalism majors are advised to obtain as broad a background as possible in the social sciences. Two years of study in a foreign language is recommended.

In filling the General Education requirement in American history and government, it is recommended that majors in journalism take Political Science 110 and either History 121 or Economics 274. One of these combinations of courses should be taken in place of History 170.

DEPARTMENTAL CORE CURRICULUM

All journalism majors must complete the following core courses in the department, totaling 10 credit hours.

Freshman and Sophomore Years		Hours
101. Introduction to Mass Communications		2
211. Basic Reporting		2
Junior and Senior Years		Hours
410. History of Mass Communications		3
490. Practices and Problems in Mass Communications		3

I. NEWS-EDITORIAL CONCENTRATION

The news-editorial concentration is designed to prepare students for work on the news and editorial staffs of daily and weekly newspapers and press services. It emphasizes the gathering and evaluation of factual information, and seeks to develop competence in writing and editing news and feature material for publication. In addition to the core curriculum, each student must complete

a minimum of 18 credit hours in journalism, including 15 credit hours in the courses specified below:

Required Courses (15 hours)		Hours
111. Elementary Photography		2
212. Advanced Reporting		3
250. Typography and Printing Processes		2
307. Communication Law		2
321. Copyreading and Editing		3
323. Practical Reporting and Editing		3
Recommended Electives (3 hours to be selected)		Hours
315. Press Photography		2
330. Introduction to Advertising		2
491. Projects in Communication Practice		1 or 2
566. Industrial Magazine Editing and Production		2

II. ADVERTISING AND PUBLIC RELATIONS CONCENTRATION

The advertising and public relations concentration provides an integrated program of study leading to professional work in advertising and public relations agencies, newspapers, radio and television stations, and advertising or public relations departments of manufacturing, business, and public institutions. In addition to the core curriculum, each student must complete 12 credit hours in required journalism courses listed below, and at least 4 credit hours selected from either the advertising or the public relations electives listed.

Required Courses (12 hours)		Hours
250. Typography and Printing Processes		2
330. Introduction to Advertising		2
331 or 351. Advertising Copy or Radio and Television Advertising		2
450. Advertising Media and Campaigns		3
561. Fundamentals of Public Relations		3
Advertising Electives (4 hours to be selected)		Hours
307. Communication Law		2
491. Projects in Communication Practice		1 or 2
Business Management 555. Problems in Advertising		3
331 or 351. Advertising Copy or Radio and Television Advertising		2
Public Relations Electives (4 hours to be selected)		Hours
212. Advanced Reporting		3
491. Projects in Communication Practice		1 or 2
563. Projects in Public Relations		1
566. Industrial Magazine Editing and Production		2

At least 18 hours of the following additional courses, selected in consultation with his adviser, should be presented by each student in the advertising and public relations concentration: advertising emphasis—Business Management 347, 455; Economics 111, 274 or equivalent; Psychology 111. Public relations emphasis—Business management 340 or 420; Economics 111, 274 or 461; Psychology 111, 330 or 350; Sociology 111, 350 or 446.

III. RADIO-TELEVISION CONCENTRATION

The radio-television concentration offers a program of courses in journalism and speech to prepare students for work in advertising, news, and programming positions for radio and television stations, networks, and broadcasting service agencies. In addition to the core curriculum, the student must complete 12 credit hours in required courses listed below, and at least 6 credit hours selected from the list of recommended electives.

Required Courses (12 hours)		Hours
212. Advanced Reporting		3
Speech 241. Introduction to Radio-TV Broadcasting		2

307. Communication Law	2
Speech 346. Radio and Television Production Workshop	2
Speech 449. Radio and TV Programs and Audiences	3

Recommended Electives (6 hours to be selected)**Hours**

319. Motion Picture and Television Photography	2
330. Introduction to Advertising	2
351. Radio and Television Advertising	2
450. Advertising Media and Campaigns	3
Speech 452, 453. Radio and Television Announcing	1 or 2
Speech 455, 456. Television Production and Direction Workshop	2 or 4

IV. JOURNALISM EDUCATION CONCENTRATION

The journalism education concentration is designed for students planning to teach journalism and related language arts subjects in secondary schools, or to supervise student publications and public information activities in high schools or junior colleges. Teacher-education courses and subject-matter requirements in major and minor areas are prescribed in the College of Education section of this catalog.

In addition to the departmental core curriculum, the student must complete 13 credit hours in required journalism courses listed below, and at least 5 credit hours selected from the list of recommended electives.

Required Courses (13 hours)**Hours**

212. Advanced Reporting	3
250. Typography and Printing Processes	2
321. Copyreading and Editing	3
323. Practical Reporting and Editing	3
330. Introduction to Advertising	2

Recommended Electives (5 hours to be selected)**Hours**

111. Elementary Photography	2
307. Communication Law	2
315. Press Photography	2
331. Advertising Copy and Layout	2
561. Public Relations	3

Supplementary Information

The requirements in the concentrations listed above may be modified to allow for previous experience or individual needs upon permission of the chairman of the department. For especially qualified students, individual programs of study may be outlined in photo journalism, broadcast news and advertising, or community journalism.

In addition to maintaining the minimum grade-point averages required by the academic standards of the University, majors in this department must maintain a grade-point average of 2.5 or higher in all work taken in journalism. Not more than 36 credit hours in journalism may be included in the undergraduate program unless the student presents more than 124 credit hours for graduation with the baccalaureate degree.

Requirements for a Minor

The teaching minor in journalism includes 14 credit hours from courses 211, 212, 321, 323, and 490, plus 4 hours selected from courses 101, 111, 250, 330, and 410.

The general minor in journalism includes 14 credit hours selected from the departmental curriculum, preferably from the core curriculum and one of the concentrations listed above.

Lower Division Courses

- 101 (101). Introduction to Mass Communications.** (2:2:0) F.S. Home Study also. (G-HA) Paulson, Burnett
A survey of the media of mass communication and their functions in modern society.
- 111 (111). Elementary Photography.** (2:1:3) F. Staff
A practical introduction to photography for the non-science student; laboratory exercises in the use of cameras and processing equipment.
- 211 (211). Basic Reporting.** (2:1:3) F.S.Su. Home Study also. Not open to freshmen. Duerden
Elements of factual communication for printed and broadcast news media; study of newsgathering organization, news values, and sources. Use of type-writer required.
- 212 (212, 311). Advanced Reporting.** (3:2:3) F.S. Prerequisite: Journalism 211. Duerden
Newsgathering techniques; practice in handling assignments in politics, sports, society, science, law enforcement, and other news areas.
- 250 (250). Typography and Printing Processes.** (2:2:2) F. Staff
Lectures and laboratory exercises in selection and use of type and engravings in editorial and advertising content of newspapers and magazines; printing and engraving processes.

This course also counts in journalism:

Speech 241. Introduction to Radio and Television Broadcasting. (2:2:3)

Upper Division Courses

- 307 (307). Communication Law.** (2:2:0) F. Burnett
Legal limits and privileges of press, radio, and television; principles of libel, contempt, copyright, and right of privacy.
- 315 (315). Press Photography.** (2:1:3) S. Prerequisite: Journalism 111 or equivalent. Staff
Principles of photography for newspapers and periodicals; practice in the use of professional equipment for taking and processing news and advertising pictures.
- 319 (New). Motion Picture and Television Photography.** (2:2:1) S. Prerequisite: Journalism 111 or equivalent. Staff
Principles of cinematography as a medium of communication; camera technique, script preparation, film editing, titling, and narration.
- 321 (321, 322). Copyreading and Editing.** (3:2:3) F.S.Su. Prerequisites: Journalism 212, 250. (250 may be taken concurrently.) Paulson
Copyreading, headline writing, news evaluation, and page makeup for newspapers. The student works with city, suburban, and news service copy.
- 323 (311, 312, 323). Practical Reporting and Editing.** (3:1:8) F.S.Su. Prerequisite: Journalism 321. Paulson
Supervised experience in reporting, copyreading, and editing assignments on the Daily Universe; individual conferences with instructor.
- 330 (330). Introduction to Advertising.** (2:2:0) F. Duerden
Principles of advertising and its role in the American economy; values to advertisers and media. Newspaper, radio, and television advertising are emphasized.
- 331 (331, 332). Advertising Copy and Layout.** (2:1:3) S. Prerequisites: Journalism 250, 330. Duerden
Study of reader interest, sales appeal, and production techniques for advertising in printed media. Students design retail and product advertisements for Daily Universe publications.

- 351 (351). **Radio and Television Advertising.** (2:2:0) F. Prerequisite: Journalism 330. Davis
Advertising principles for broadcast media; study of research, station coverage, and audience measurement. Writing commercials, programs, spot announcements; time buying, production, transcription, and film services.
- 410 (305). **History of Mass Communication.** (3:3:0) F. Home Study also. (G-HA) Burnett
Development of American newspapers, magazines, and broadcast communication media from colonial beginnings to the present, viewed in relation to political, social, and economic history of the times.
- 450 (333, 352). **Advertising Media and Campaigns.** (3:2:3) S. Prerequisites: Journalism 330, and 331 or 351. Davis, Burnett
Research and planning of advertising campaigns as related to national and local objectives; media selection and budgeting; individual project in production of an advertising campaign.
- 471 (571). **Magazine Article Writing.** (2:2:0) S. Home Study also. Prerequisite: ability to typewrite. Paulson
Planning and writing non-fiction articles for sale to periodicals. Analysis of magazine markets and criticism of articles written in the course.
- 490 (490). **Practices and Problems in Mass Communication.** (3:3:0) S. Home Study also. Burnett
Comprehensive review of the field of mass communication, including analysis of policies, practices, and problems of the mass media as social instruments. Individual writing projects.
- 491 (316, 491, 494). **Projects in Communication Practice.** (1-2:Arr.:Arr.) F.S. Su. Staff
Laboratory projects for upper division students in advertising, editing, photography, radio, or television. Maximum of 2 hours credit in any one field.

These courses also count in journalism:

- Speech 346. **Radio and Television Production Workshop.** (2:1:2)
- Speech 449. **Radio and Television Programs and Audiences.** (3:3:0)
- Speech 452, 453. **Radio and Television Announcing.** (1:1:0)
- Speech 455, 456. **Television Production and Direction Workshop.** (2:1:2)

Advanced Undergraduate or Graduate Courses

- 561 (561, 564). **Public Relations.** (3:3:0) F.Su. Burnett, Duerden
Philosophy and practice of public relations in business, governmental, educational and other institutions; study of publics, media, and methods. Case studies of public relation practice.
- 563 (497). **Projects in Public Relations.** (1:0:3) F.S.Su. Butterworth
Field projects in public relations practice for selected business, industrial, or non-profit institutions. (Limited to majors and minors.)
- 566 (566). **Industrial Magazine Editing and Production.** (2:2:0) S. Prerequisites: Journalism 211, 301. Duerden
Principles of layout and design for house magazines and business publications. Contemporary problems in content and production.
- 574 (674). **Teaching Methods in Journalism.** (2:2:0) Su. Prerequisite: Journalism 321 or equivalent. Burnett
Teaching methods for journalism in the secondary school and junior college. Planning and supervising school newspapers. Disseminating school publicity in the public media.

- 576 (676). School Yearbook and Magazine Production.** (2:2:0) Su. (Offered 1961-62 and alternate years.) Staff
 Planning and supervising production of school yearbooks and magazines, including copy, illustration, layout, printing, binding, and business management.

This course also counts in journalism:

Business Management 555. Problems in Advertising. (3:3:0)

Graduate Courses

- 671 (671). Research Methods in Mass Communications.** (2:2:0) F. Burnett
 Research techniques in communication fields, including readership, readability, content analysis, and audience measurement. Introduction to thesis writing.
- 672 (672). Mass Communication and Society.** (3:3:0) S. Burnett
 Concepts of mass communication in contemporary society; critical evaluation of responsibilities and performance of the mass media of press, radio, television, and film.
- 680 (New). World Communication Channels.** (2:2:0) S. Burnett
 Communication media in principal areas of the world. Problems of international communication and barriers to the flow of information between peoples.
- 690 (690). Seminar in Mass Communication.** (1:1:0) S.Su. Staff
- 691, 692 (691, 692, 693). Special Studies in Communication.** (1-3:Arr.:Arr.) F.S.Su. Staff
 Individual work on approved problems not leading to a thesis. (Projects must be approved before registration.)
- 694 (694). Readings in Mass Communications.** (1-2:Arr.:Arr.) F.S.Su. Pre-Staff
 prerequisite: consent of instructor.
- 699 (699). Thesis for Master's Degree.** (2-4:Arr.:Arr.) F.S.Su. Staff



Languages

Professors: Cummings (emeritus), de Jong, Lee, Nibley, Rogers, Watkins.

Associate Professors: Taylor (chairman, 326 McKay), V. L. Anderson, Clark, Valentine, Wilkins.

Assistant Professors: Brown, Gibson.

Instructors: C. D. Anderson, Gubler*, Heudier, Smithson.

The study of a foreign language is a unique educational experience. It is a means by which the student can participate in the inner life of another people and share their culture. Through the study of a foreign language, the student also comes to learn his own language better. The poet and philosopher Goethe said, "He who knows no other language, knows not his own."

The objectives of the courses in the Department of Languages are:

1. **General:** To teach the student to understand and to speak the language with facility and to develop skill in reading and writing.

To provide a survey of foreign literatures and to acquaint the student with foreign cultures.

2. **Specific:** To prepare students for the teaching profession, government work at home and abroad, international trade, L.D.S. missions in foreign countries, and research leading to advanced degrees.

Languages required for B.Y.U. Degrees. Every degree of Bachelor of Arts and Master of Arts granted by the University requires the completion of the equivalent of at least 16 hours of an approved foreign language. The degree of Doctor of Philosophy to be granted by this University requires reading proficiency in two foreign languages, one of which must be French or German.

Library and Laboratory Facilities. The department has an experienced and competent staff as well as good library facilities. It also has one of the most modern and best equipped language laboratories in the United States. All presently available electronic recording and playback equipment is at the disposal of more than sixty students every hour, permitting a strong emphasis to be placed on acquiring good pronunciation and speaking fluency. The tape library contains some of the best dramatic and poetic works in the principal languages of the world.

Credit for Study in High School. For students who have had the opportunity to study a foreign language in high school, the 16-hour language requirement for the B.A. degree may be proportionately reduced for each unit of high school work completed. Students who have had high school language training may obtain advanced standing after consultation with the department.

Special Examination for Foreign Residence. Students who have had foreign residence may with the consent of the department, obtain up to 16 hours of special foreign language credit. This may be done in two ways: (1) by successfully completing a more advanced course in the language, or (2) by passing a series of examinations administered by the department. Foreign students are not permitted to obtain credit in this way for their native language.

Major and Minor Requirements

In French, German, Spanish, Russian, Portuguese, Latin, Greek, and Hebrew the department offers programs leading to a departmental major or minor with the Bachelor of Arts degree. The requirement for a major is 24 hours of credit beyond the second year, part of which may be chosen from other areas which support the major language. Recommended classes which support the major field

are listed under each separate language offering. These may be chosen only in consultation with the major adviser. The requirement for a minor is 14 hours beyond the second year. The department reserves the right to specify certain courses to be used toward a degree in these foreign languages. Areas that serve as minors include a second foreign language, English, one of the fine arts, history, political science, sociology, etc.

Prospective Graduate Students. Prospective graduate students are reminded that a second and sometimes a third, language will be required of them in graduate school. It is advisable that work in at least one other language be started before the junior year. Students must follow specific steps in their progress toward a graduate degree. It is their responsibility to obtain these regulations from the department chairman and follow them. Graduate students who have the consent of the instructor may register for certain undergraduate literature courses.

MODERN LANGUAGES

ARABIC

Lower Division Courses

- 101, 102 (101, 102, 103). First Year Arabic.** (5:5:1 ea.) F.S. (G-HA) Staff
The modern spoken language. Designed for those who have had no Arabic.

CHINESE

Lower Division Courses

- 101, 102 (New). First Year Chinese.** (4:4:2 ea.) F.S. Staff
Designed for those who have had no Chinese.
- 201 (New). Intermediate Chinese Reading and Conversation.** (4:4:1) F. Pre-requisite: Chinese 102. Staff

Upper Division Courses

- 301 (New). Selected Readings.** (4:4:0) S. Prerequisite: Chinese 201 or consent of instructor. Staff
- 321, 322 (New). Chinese Composition and Conversation.** (3:3:0) F.S. Staff

FRENCH

The requirements for a major is 24 hours of upper division courses which must include French 321, 322, 431, 432, 441, 442, 511, and 4 hours from French 360 and the departmental offerings on the 500 series level or from among the following highly recommended courses, with the approval of the major adviser: Linguistics 325; History 311, 312, 332; Philosophy 380, 580, 581; English 550.

The requirement for a minor is 14 hours of upper division courses, which must include French 321, 322, 431, 442, 511 is required for those who plan to teach.

Lower Division Courses

- 101, 102 (101, 102, 103). First Year French.** (4:4:2 ea.) F.S.Su.
Brown, Clark, Heudier, Lee, Smithson, Staff
Designed for those who have had no French. Pronunciation, reading fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.
- 201 (201, 202, 203). Intermediate French Reading and Conversation.** (4:4:1 ea.) F.S.Su. Home Study also. Prerequisite: French 102, three units of French in high school, or consent of instructor.
Brown, Clark, Heudier, Lee, Smithson, Staff

Upper Division Courses

- 301 (204, 311). **Selected Readings.** (4:4:0) F.S.Su. Prerequisite: French 201 or consent of instructor. Brown, Clark, Heudier, Lee, Smithson, Staff
Extensive readings of intermediate and advanced edited texts.
- 321, 322 (321, 322, 323). **French Composition and Conversation.** (3:3:0) F. S. Home Study also. Prerequisite: sixteen hours of French or equivalent.
- 360 (Linguistics 360). **French Phonetics and Pronunciation.** (2:2:0) S. Staff
- 431, 432 (431, 432, 433). **Masterpieces of French Literature.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: sixteen hours of French or consent of instructor. Brown, Clark, Lee
- 441, 442 (441, 442, 443). **Survey of French Literature and Culture.** (3:3:0) F. S. Home Study also. (G-HA) Prerequisite: French 301 or consent of instructor. Brown, Clark, Lee
General view of the literary periods, movements, and social backgrounds with representative readings.
- 490, 491 (491, 492, 493). **Individual Study in French.** (1-3:Arr.:Arr.) F.S.Su. Staff
Assignments are made to fit the individual needs of the advanced student.

Advanced Undergraduate or Graduate Courses

- 511 (511). **Materials and Techniques in Teaching French.** (2:2:1) F.Su. Prerequisite: French 322 or consent of instructor. Clark, Lee, Staff
- 520 (620). **French Composition and Grammar.** (2:2:1) F. Staff
- 521 (621). **Introduction to Romance Philology.** (2:2:0) F. Clark
- 522 (622). **History of French Language.** (2:2:0) S. Clark, Lee
- 543 (643). **Introduction to French Civilization.** (2:2:0) F. Brown, Clark, Heudier, Lee

Graduate Courses

- 660 (631). **Old French Literature.** (2:2:0) S. Clark, Lee
- 665 (633). **French Literature of the Renaissance.** (2:2:0) F. Brown, Lee
- 674 (641). **Molière.** (2:2:0) F. Clark, Lee
- 675 (635). **French Literature of the 18th Century.** (2:2:0) S. Clark, Lee
- 680 (651). **French Drama of the 19th Century.** (2:2:0) S. Brown, Lee
- 681 (653). **French Novel of the 19th Century.** (3:3:0) S. Brown, Lee
- 685 (637). **French Literature of the 20th Century.** (2:2:0) F. Clark, Lee
- 686 (652). **Modern French Drama.** (2:2:0) S. Brown, Clark, Lee
- 687 (654). **Modern French Novel.** (3:3:0) F. Brown, Clark, Lee
- 690, 691 (691, 692, 693). **Directed Readings in French.** (1-2:0:Arr.) F.S.Su. Staff
- 692, 693 (691, 692, 693). **Seminar in Philology.** (1-2:1-3:0) F.S.Su. Staff
- 694-698 (691, 692, 693). **Seminar in French Literature.** (1-2:1-3:0) F.S.Su. Staff
- 699 (699). **Thesis for Master's Degree.** (Arr.) F.S.Su. Staff

GERMAN

The requirement for a major is 24 hours of upper division courses which must include German 321, 322, 431, 432, 441, 442, 511, and 4 hours from the following list of recommended courses: English 550; Geography 460; German 520, 360; History 311, 312, 333; Linguistics 325; Philosophy 380, 580, 581.

The requirement for a minor is 14 hours of upper division courses which must include German 321, 322, 441, 442. 511 is required for those who plan to teach.

Lower Division Courses

- 101, 102 (101, 102, 103). First Year German.** (4:4:2 ea.) F.S.Su. (G-HA)
Anderson, Rogers, Watkins, Staff
Designed for those who have not had German. Pronunciation, reading, fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.
- 201 (201, 202, 203). Intermediate German Reading and Conversation.** (4:4:1) F.S.Su. Home Study also. Prerequisite: German 102 or three units of German in high school or consent of instructor. Anderson, Rogers, Watkins
Conversation, review of grammar, vocabulary building.

Upper Division Courses

- 301 (204, 311). Selected Readings.** (4:4:0) F.S.Su. Prerequisite: German 201 or consent of instructor. Anderson, Rogers, Watkins
Extensive readings of intermediate edited texts.
- 321, 322 (321, 322, 323). German Composition and Conversation.** (3:3:0 ea.) F.S. Home Study also. Prerequisite: sixteen hours of German or equivalent. Anderson, Rogers, Watkins
- 360 (Linguistics 360). German Phonetics and Pronunciation.** (2:2:0) S. Staff
- 385, 386 (307, 308, 309). Scientific German.** (2:2:0 ea.) F.S.Su. Home Study also. Anderson, Staff
- 431, 432 (431, 432, 433). Masterpieces of German Literature.** (3:3:0 ea.) F.S. Home Study also. (G-HA) Prerequisite: sixteen hours of German or consent of instructor. Anderson, Rogers, Watkins
- 441, 442 (441, 442, 443). Survey of German Literature and Culture.** (3:3:0 ea.) F.S. Home Study also. (G-HA) Prerequisite: German 301 or consent of instructor. Anderson, Rogers, Watkins
General view of literary periods, movements, and social background with representative readings.
- 490, 491 (491, 492, 493). Individual Study in German.** (1-3:Arr.:Arr.) F.S.Su. Anderson, Rogers, Watkins
Assignments are made to fit the individual needs of the advanced student.

Advanced Undergraduate or Graduate Courses

- 511 (511). Materials and Techniques in Teaching German.** (2:2:1) F.S. Prerequisite: German 322 or consent of instructor. Rogers, Watkins
- 520 (620). Advanced German Composition and Grammar.** (2:2:0) S.Su. Anderson, Rogers

Graduate Courses

- 600 (661). Cultural History of Germany.** (2:2:0) S.Su. Watkins
- 622 (666, 667). Gothic and Old High German.** (5:5:0) F. Watkins
Introduction to comparative Germanic philology through a study of linguistic forms in old Germanic languages, principally Gothic and Old High German.

- 624 (668). **Middle High German.** (3:3:0) S. Watkins
- 643 (658). **German Lyric Poetry.** (2:2:0) F. Prerequisites: German 431, 432, 441, 442, or consent of instructor. Rogers
- 644 (651). **The German Drama.** (2:2:0) S. Prerequisites: German 431, 432, 441, 442, or consent of instructor. Anderson
- 645 (654). **The German Novel.** (2:2:0) F. Prerequisites: German 431, 432, 441, 442, or consent of instructor. Anderson
- 646 (656). **The German Novelle.** (2:2:0) S. Prerequisites: German 431, 432, 441, 442, or consent of instructor. Anderson
- 676 (541). **Lessing.** (2:2:0) F. Prerequisites: German 431, 432, 441, 442, or consent of instructor. Rogers
- 677 (542). **Schiller.** (2:2:0) S. Prerequisites: German 431, 432, 441, 442, or consent of instructor. Rogers
- 678 (543). **Goethe.** (2:2:0) F. Prerequisites: German 431, 432, 441, 442, or consent of instructor. Rogers
- 685 (637). **Contemporary German Literature.** (2:2:0) S. Prerequisites: German 431, 432, 441, 442, or consent of instructor. Anderson, Rogers
- 690, 691 (New). **Directed Readings.** (2:0:Arr.) F.S.Su. Anderson, Rogers, Watkins
- 692, 693 (691). **Seminar in Philology.** (2:2:0) S.Su. Watkins
- 694-698 (694). **Seminar in Literature.** (2:2:0) F.S.Su. Staff
- 699 (699). **Thesis for Master's Degree.** (Arr.) Staff

HEBREW

- 101, 102 (New). **First Year Hebrew.** (4:4:2) F.S. (G-HA) Rasmussen
A beginning course in modern Hebrew as spoken in Israel today. Vocabulary based on Biblical Hebrew provides a foundation for those interested in using the living language as well as those who will later specialize in Biblical Hebrew.

ITALIAN

Lower Division Courses

- 101, 102 (101, 102, 103). **First Year Italian.** (4:4:1) F.S. Offered 1961-62 and alternate years. (G-HA) Gibson, Watkins
Special attention to accurate pronunciation for benefit of students of music and art for whom Italian has special interest and value. Grammar and graded reading.
- 201 (201, 203, 205). **Second Year Italian.** (4:4:0) F. Offered 1962-63 and alternate years. Prerequisite: Italian 102 or two units of Italian in high school. Gibson, Watkins

Upper Division Courses

- 301 (202, 204, 206). **Selected Readings.** (4:4:0) S. Offered 1962-63 and alternate years. Gibson
Extensive reading of intermediate texts.
- 431, 432 (431, 432, 433). **Masterpieces of Italian Literature.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: Italian 301 or consent of instructor. Gibson, Watkins
- 490, 491 (491, 492, 493). **Individual Study in Italian.** (1-3:Arr.:Arr.) F.S. Gibson, Watkins
Assignments made to fit the individual needs of the advanced student.

JAPANESE

Lower Division Courses

- 101, 102 (101, 102, 103). First Year Japanese.** (4:4:1) F.S. (G-HA) Staff
Constant study of the writing systems. Fundamentals of grammar and the building of a substantial vocabulary. Easy conversation and composition throughout.
- 201 (201, 203). Second Year Japanese.** (3:3:0) F. Prerequisite: Japanese 102 or consent of instructor. Staff
Reading and conversation.

Upper Division Courses

- 301 (202, 204, 206). Selected Readings.** (4:4:0) S. Prerequisite: Japanese 201 or equivalent. Staff
- 490, 491 (491, 492, 493). Individual Study in Japanese.** (1-3:Arr.:Arr.) F.S. Staff
Su. Assignments made to fit the individual needs of the advanced student.

NORWEGIAN

Lower Division Courses

- 101, 102 (New). First Year Norwegian.** (4:4:2) F.S. (G-HA) Staff
Designed for those who have had no Norwegian.

PORTUGUESE

The requirement for a major is 24 hours of upper division courses which must include the following: Portuguese 321, 322, 431, 432, 490, 491 (or equivalents).

The requirement for a minor is 14 hours of upper division courses, which must include Portuguese 321, 322, 431, 432.

Lower Division Courses

- 101, 102 (101, 102, 103). First Year Portuguese.** (4:4:1) F.S. (G-HA) de Jong
A beginning course. Pronunciation, conversation, reading, and fundamentals of grammar. Special attention to Portuguese as the language of Brazil.
- 201 (201, 203, 205). Second Year Portuguese.** (4:4:0) F. Home Study also. Prerequisite: Portuguese 102 or three units of Portuguese in high school. Staff

Upper Division Courses

- 301 (202, 204, 206). Selected Readings.** (4:4:0) S. Prerequisite: Portuguese 201. Staff
Extensive readings of intermediate edited texts.
- 321, 322 (321, 322, 323). Portuguese Composition and Conversation.** (3:3:0) F. S. Prerequisites: Portuguese 301; 16 hours of Portuguese or the equivalent. de Jong
- 431, 432 (431, 432, 433). Masterpieces of Brazilian and Portuguese Literature.** (3:3:0) F.S. (G-HA) Prerequisite: Portuguese 301 or consent of instructor. de Jong
- 490, 491 (491, 492, 493). Individual Study in Portuguese.** (1-3:Arr.:Arr.) F.S. Su. de Jong
Assignments are made to fit the individual needs of the advanced student.

Graduate Courses

- 620, 621 (601, 602, 603). Portuguese Composition and Conversation. (3:3:0)
F.S. de Jong
- 641 (631, 632). Introduction to Portuguese Literature. (3:3:0) F.S. (G-HA)
de Jong
- 642 (633). Contemporary Portuguese Literature. (3:3:0) S. de Jong
- 650 (655, 656, 657). Introduction to Brazilian Literature. (3:3:0) F.S.
de Jong
- 651 (657). Contemporary Brazilian Literature. (3:3:0) S. de Jong
- 690 (696). Directed Readings. (1-2:0:Arr.) F.S.Su. Staff
- 692 (694). Seminar in Philology. (2:2:0) F.S. de Jong
- 694 (696). Seminar in Literature. (1-2:1-2:0) F.S. Staff
- 699 (699). Thesis for Master's Degree. (1-4:1-4:0) F.S. Staff

RUSSIAN

Lower Division Courses

- 101, 102 (101, 102, 103). First Year Russian. (4:4:1) F.S.Su. (G-HA)
Gubler, Staff
Designed for those who have had no Russian. Pronunciation, reading, fundamentals of grammar, and building of a substantial vocabulary.
- 201 (201, 203, 205). Second Year Russian. (4:4:0) F. Home Study also. Pre-requisite: Russian 102.
Gubler, Staff
Readings in Russian literature.

Upper Division Courses

- 301 (202, 204, 206). Selected Readings. (4:4:0) S. Prerequisite: Russian 201 or consent of instructor.
Gubler, Staff
Extensive readings of intermediate edited texts.
- 321, 322 (321, 322, 323). Russian Composition and Conversation. (3:3:0) F.S.
Prerequisite: sixteen hours of Russian or equivalent. Gubler, Staff
- 431, 432 (431, 432, 433). Masterpieces of Russian Literature. (3:3:0) F.S. (G-HA) Prerequisite: Russian 301 or consent of instructor. Gubler, Staff
- 490, 491 (491, 492, 493). Individual Study in Russian. (1-3:Arr.:Arr.) F.S.Su.
Gubler, Staff
Assignments made to fit the individual needs of the advanced student.

SPANISH

The requirement for a major is 24 hours of upper division courses which must include Spanish 321, 322, 441, 442, 451, 452. The additional six hours are to be taken from the departmental offerings on the 500 series level, or from among the following highly recommended courses, with the approval of the major adviser: Linguistics 325; History 334, 351, 352, 353; Archaeology 440, 480; English 550; Philosophy 380, 580, 581. Spanish 511 is required of those who plan to teach.

The requirement for a minor is 14 hours of upper division courses which must include 12 hours from the following group: Spanish 321, 322, 441, 442, 451, 452. 511 is required for those who plan to teach.

Lower Division Courses

- 101, 102 (101, 102, 103). First Year Spanish. (4:4:2) F.S.Su. (G-HA)
Gibson, Hansen, Taylor, Valentine, Wilkins, Staff

Designed for those who have not had Spanish. Pronunciation, reading, and fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.

- 201 (201, 202, 204). **Intermediate Spanish Reading and Conversation.** (4:4:1) F.S.Su. Home Study also. Prerequisite: Spanish 102 or three units of high school Spanish or consent of instructor.

Taylor, Valentine, Wilkins, Staff

Upper Division Courses

- 301 (203, 311). **Selected Readings.** (4:4:0) F.S.Su. Home Study also. Prerequisite: Spanish 201 or consent of instructor. Staff
Extensive reading of intermediate edited texts.

- 321, 322 (321, 322, 323). **Spanish Composition and Conversation.** (3:3:0) F. S.Su. Home Study also. Prerequisite: Spanish 301 or equivalent. Staff

- 360 (Linguistics 360). **Spanish Phonetics and Pronunciation.** (2:2:0) S. Staff

- 431, 432 (431, 432, 433). **Masterpieces of Spanish and Spanish-American Literature.** (3:3:0) F.S.Su. Home Study also. (G-HA) Prerequisite: sixteen hours of Spanish or consent of instructor. Taylor, Valentine, Wilkins

- 441, 442 (441, 442, 443). **Survey of Spanish Literature and Culture.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: Spanish 301 or consent of instructor. Taylor

- 451, 452, (451, 452, 453). **Survey of Spanish-American Literature and Culture.** (3:3:0) F.S. Home Study also. (G-HA) Prerequisite: Spanish 301 or consent of instructor. Wilkins

- 490, 491 (491, 492, 493). **Individual Study in Spanish.** (1-3:Arr.:Arr.) F.S.Su. Staff
Assignments are made to fit the individual needs of the advanced student.

Advanced Undergraduate or Graduate Courses

- 511 (511). **Materials and Techniques in Teaching Spanish.** (2:2:0) F.Su. Prerequisite: Spanish 322 or consent of instructor. Taylor, Valentine, Wilkins

- 520 (620). **Spanish Composition and Grammar.** (2:2:0) F. Staff

- 521 (French 621). **Introduction to Romance Philology.** (2:2:0) F. Clark

- 522 (622). **History of the Spanish Language.** (2:2:0) S. Gibson

- 553 (653). **Drama in Spanish America.** (2:2:0) S. Valentine, Wilkins

- 580, 581 (680, 681). **19th Century Spanish Literature.** (3:3:0) F.S. Gibson, Taylor

Graduate Courses

- 652 (681). **Spanish American Short Story.** (2:2:0) S. Valentine, Wilkins

- 654, 655 (672, 673). **Spanish American Novel.** (3:3:0) F.S. Valentine, Wilkins

- 656 (655). **The Modernista Movement.** (2:2:0) S. Valentine, Wilkins

- 657 (633). **Hispanic American Essay.** (2:2:0) F. Valentine, Wilkins

- 660 (621). **Spanish Medieval Literature.** (2:2:0) S. Taylor

- 670, 671 (665, 675). **Golden Age Literature.** (3:3:0) F.S. Gibson, Taylor

- 685, 686 (623, 661). **20th Century Literature.** (2:2:0) F.S. Taylor

- 690, 691 (New). **Directed Readings.** (2:0:Arr.) F.S. Staff

Individual study on a graduate level.

- 692 (694). **Seminar in Philology.** (2:2:0) F.S.Su. Staff

- 694-698 (694). **Seminar in Literature.** (2:2:0) F.S.Su. Staff

- 699 (699). **Thesis for Master's Degree.** (Arr.) F.S.Su. Staff

CLASSICAL LANGUAGES

LATIN

The requirement for a major is 24 hours of upper division courses which must include Latin 441, 442, 511, and 12 hours of electives to be selected from 301, 315, 316, 490, 491, 651, 667, and 668.

The requirement for a minor is 14 hours of upper division courses including Latin 441, 442, 511, and 4 hours of electives from 301, 315, 316, 490, 491, 651, 667, and 668.

Lower Division Courses

- 101, 102 (101, 102, 103). **First Year Latin.** (4:4:0) F.S.Su. (G-HA) Clark, Staff
Designed for those who have not had Latin. Mastery of pronunciation, declensions, and conjugations. Correlation of Latin originals with English derivatives. Graded reading. Characteristics of Roman civilization.
- 201 (201, 203, 205). **Second Year Latin.** (4:4:0) F.Su. Home Study also. Pre-requisite: Latin 102 or three units of Latin in high school. Clark, Staff
Readings from Caesar, Livy, etc., with a review and continuation of grammar.

Upper Division Courses

- 301 (202, 204, 206). **Selected Readings.** (4:4:0) S.Su. Home Study also. Pre-requisite: Latin 201. Clark, Staff
- 315 (340). **Pre-Legal Latin.** (2:2:0) F. Prerequisite: consent of instructor. Clark, Staff
Recommended for pre-legal students.
- 316 (341, 342). **Pre-Medical Latin and Greek.** (3:2:0) S. Prerequisite: consent of instructor. Clark, Staff
Recommended for pre-medical students.
- 441, 442 (441, 442, 443). **Survey of Latin Literature and Culture.** (3:3:0) F.S. (G-HA) Clark, Staff
- 490, 491 (491, 492, 493). **Individual Study.** (1-3:Arr.:Arr.) F.S.Su. Clark, Staff

Graduate Courses

- 661, 662 (651, 652). **Readings in Vulgar Latin.** (2:2:0) F.S. Clark, Staff
- 667, 668 (667, 668, 669). **Cicero, Virgil; Latin Style and Composition.** (3:3:0) F.S. Clark, Staff
- 677, 678 (677, 678, 679). **Horace; the Latin Poets; the Latin Dramatists.** (3:3:0) F.S. Clark, Staff
- 681, 682 (681, 682, 683). **The Latin Fathers.** (3:3:0) F.S. Prerequisite: consent of instructor. Nibley
- 690, 691 (New). **Directed Readings.** (1-2:Arr.:Arr.) F.S.Su. Clark, Staff
Individual study on a graduate level.
- 692, 693 (New). **Seminar in Philology.** (2:2:0) F.S. Clark, Staff
- 694-698 (New). **Seminar in Literature.** (2:2:0) F.S. Clark, Staff
- 699 (699). **Thesis for Master's Degree.** (Arr.) F.S.Su. Staff

GREEK

For major and minor requirements consult the department chairman.

Lower Division Courses

- 101, 102** (101, 102, 103). Elementary Greek. (4:4:0) F.S. (G-HA) Staff
201 (New). Intermediate Greek Reading and Composition. (4:4:1) F. (G-HA) Staff
301 (New). Selected Readings. (4:4:0) S. (G-HA) Prerequisite: Greek 201 or consent of instructor. Staff

SEMITICS

Hebrew, Arabic, Aramaic, Akkadian, Egyptian, Syriac, Ugaritic

For Semitic languages other than Arabic and Modern Hebrew see the Department of Biblical Languages section. The courses in Semitic languages carry credit in religion and fulfill the language requirements for the B.A. degree.

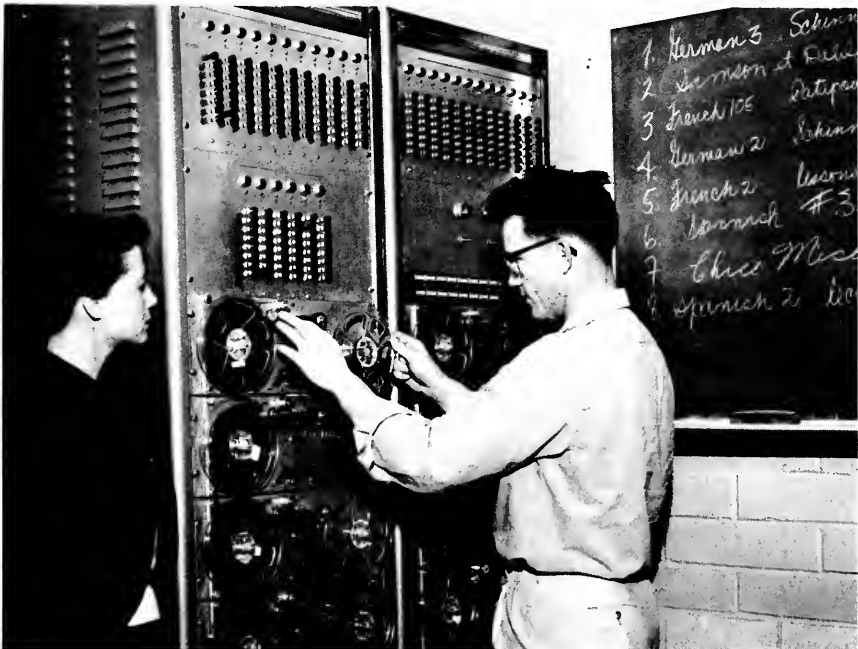
LINGUISTICS

Upper Division Courses

- 325** (New). Introduction to Linguistics. (2:2:0) F.S.Su. Blair
 An introduction to linguistics which includes an introduction to the scientific study of language for students in foreign languages, English, and anthropology. Includes the nature and description of language; its sounds and grammar; the historical and comparative study of language.
360 (125, 360). Practical Phonetics. (2:2:0) F.S. de Jong
 Elementary principles of speech mechanics in their relation to correct diction.

Graduate Course

- 626** (601). Introduction to Linguistics. (2:2:0) S. Staff



Library Science

Assistant Professor: Knight* (chairman, 185 Library).

Instructors: Berry, Flake, Hansen, Jenson, Nash, Storrs, Swenson, Thorne.

The library science program is organized to fill the needs of school and public librarians, teachers, and students who wish to become familiar with library use, and those who wish to do advanced study in a professional library school. All of the courses listed will be taught one or more times during a two-year period, including summer sessions.

Candidates for a librarian's certificate in Utah must have courses 355, 363, and 366 in addition to the elementary or secondary certificate.

A minor (teaching minor) requires 14 to 16 hours of selected courses including 355, 363, 366, 370, and 585.

Lower Division Course

- 111 (111). **Use of Books and Libraries.** (1:2:0 for ½ term) F.S. Staff
Efficient use of library materials; card catalog; use of general reference books (bibliographies, dictionaries, encyclopedias, and indexes); and making of bibliographies.

Upper Division Courses

- 355 (355). **Classification and Cataloging.** (3:3:0) S.Su. Prerequisite: ability to typewrite. Jenson
Theory and principles of classification and cataloging of books in libraries. Practical problems and laboratory practice.
- 363 (363). **Library Organization and Administration.** (2:2:0) F.Su. Home Study also. Thorne
General organization and administration in all types of libraries. Emphasis on physical facilities, objectives, and management.
- 366 (366). **Book Selection.** (2:2:0) S.Su. Staff
Principles, criteria, and practice in selection of books and other library materials.
- 370 (370). **Introduction to Bibliography.** (2:2:0) F.S.Su. Hansen
Intensive study of the content and use of reference books: encyclopedias, dictionaries, indexes, yearbooks, bibliographies, atlases, and biographies. Bibliographic form stressed.

These courses also count in library science:

Instruction 340. Children's Literature. (2:2:0)

Instruction 406. Teaching Materials Laboratory (Audio-Visual Aids). (2:2:1)

Advanced Undergraduate or Graduate Courses

- 569 (569). **Reading Guidance for Young People.** (2:2:0) S. Staff
A critical study of the reading interests and needs of young people. Problems of the reluctant and the avid reader. Extensive examination and reading of books.
- 571 (571). **Bibliography of the Sciences.** (2:2:0) Su. Staff
- 572 (572). **Bibliography of the Humanities.** (2:2:0) S. Knight

573 (573). Bibliography of the Social Sciences. (2:2:0) S. Knight

585 (590). History of Books and Libraries. (2:2:0) F.Su. Flake

This course also counts in library science:

Speech 527. Storytelling. (2:2:0)

Graduate Courses

650 (650). Current Problems in the Technical Services. (2:2:0) Su. Staff

695, 696 (655). Readings and Research in Library Science. (1-2:Arr.:Arr.) F. Staff
S.Su.

This course also counts in library science:

Instruction 605. Development of Instructional Materials. (2:2:1)



Mathematics

Associate Professors: Robinson, Fletcher* (chairman, 289 ESC).

Assistant Professors: Fearnley, Karst*, Larsen, Olpin.

Instructors: Haupt, Hillam*, Hone.

All entering freshmen intending to take mathematics must take the mathematics placement test before or at the time of registration. Students will be placed in Math 101, 111, or 112, depending on the results of this test.

A high school graduate planning to major in the physical or engineering sciences should have had $1\frac{1}{2}$ units of high school algebra and one unit of plane geometry. Trigonometry and solid geometry are also recommended. With these, he should be able to qualify for enrollment in Math 111 or 112. Those who have not had two courses of high school algebra or who may be weak in mathematics should take Math 101 in summer school or by correspondence before entering B.Y.U. Those without plane geometry should take this course by correspondence before entering.

Departmental majors are required to complete, with grade "C" or better, a minimum of 24 hours of upper division mathematics including Math 541 and 542. In addition, all majors are required to pass a written comprehensive examination which is given the final semester of the senior year.

Math 51, 101, and 111 should not be counted toward filling a mathematics minor.

The requirements for a teaching certificate in mathematics are given in the College of Education section of this catalog.

The requirements for entering the Honors Program are given in the honors section of this catalog.

Suggested Sequence of Courses for Math Majors

Freshman Year			Junior Year		
	F	S		F	S
Math 112, 213*	5	5	Math 311, 312	3	3
English	3	3	Math 371, 372	3	3
Chemistry 105, 106	4	4	German	5	5
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Physics	3	3
Health	2		Electives	2	2
History 170		3	Religion	2	2
Religion	2	2			
Total Hours	16 $\frac{1}{2}$	17 $\frac{1}{2}$	Total Hours	18	18

Sophomore Year			Senior Year		
	F	S		F	S
Math 214	5		Math 541, 542	3	3
Math 435		2	Math 551, 552 or		
Math 316		3	521, 522	3	3
Physics 211, 213	5	5	Math 491 or 492	1	
Social science	3	3	German	3	3
Biological science	3	3	Literature	5	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Electives		6
Religion	2	2	Religion	2	2
Total Hours	18 $\frac{1}{2}$	18 $\frac{1}{2}$	Total Hours	17	17

*An entering freshman who has not had the equivalent of Math 111 should complete this during the first year. This will mean that he has 5 hours less of electives in his college program.

Remedial Course

- 51 (51). Plane Geometry.** (0:3:0) F.S. Staff
Equivalent to high school plane geometry. Required of students majoring in the College of Physical and Engineering Sciences. This is also offered by correspondence prior to entrance as a freshman.

Lower Division Courses

- 101 (101). Intermediate Algebra.** (3:4:0) F.S.Su. Staff
Equivalent to the second year of high school algebra. Those with no algebra in high school should take a correspondence course in first year algebra to make up the deficiency. Those with two years of high school algebra who place high on the placement test may take Math 111 without taking Math 101 first.
- 111 (111, 112). College Algebra and Trigonometry.** (5:5:0) F.S.Su. Prerequisite: Math 101. Staff
If a student has not completed Math 101, he can enroll in this course only by passing a placement test prior to registration.
- 112 (231). Analytical Geometry and Calculus.** (5:5:0) F.S.Su. Prerequisite: Math 111. Staff
Analytical geometry for half a semester followed by a formal introduction to differential and integral calculus.
- 121, 122 (105, 106, 107). Technical Mathematics.** (3:3:0 ea.) F.S. Prerequisite: Math 101 or equivalent. Staff
For students in the technical institute. College algebra, trigonometry, analytical geometry, and an introduction to calculus. Emphasis on problems and practical application.
- 205 (New). Structure of Mathematics.** (3:3:0) F.S. Staff
For honor students only.
- 213 (232, 233). Calculus.** (5:5:0) F.S.Su. Prerequisite: Math 112. Staff
Differential and integral calculus.
- 214 (233, 234). Calculus and Differential Equations.** (5:5:0) F.S.Su. Prerequisite: Math 213. Staff
Applications of the calculus for half a semester followed by elementary differential equations.
- 223 (New). Technical Mathematics.** (3:3:0) F.S. Prerequisite: Math 122. Staff
A continuation of Math 122. Analytical geometry and calculus for the technical institute.

Upper Division Courses

- 300 (307). History of Mathematics.** (3:3:0) S. Prerequisite: Math 112. Staff
A study of the development of mathematics with emphasis on the underlying principles and motivations. Primarily for prospective teachers.
- 301 (357, 377). Foundations of Mathematics.** (3:3:0) F. Prerequisite: Math 111. Staff
Sets, logic, basic number systems. Primarily for prospective teachers.
- 311 (311, 313). Digital Computers.** (3:1:6) F. Prerequisite: Math 112. Dean
Computer logic, flow diagram, coding techniques, solution of problems using a modern digital computer as a laboratory machine.
- 312 (311, 312). Numerical Analysis.** (3:3:0) S. Prerequisite: Math 214. Dean
Numerical solutions of algebraic, difference, differential, and integral equations.

- 315 (316, 317, 318). **Applied Mathematical Analysis.** (3:3:0) F.S. Prerequisite: Math 214. Staff
Matrix algebra, vector analysis, numerical analysis, statistics.
- 316 (316, 317, 318). **Applied Mathematical Analysis.** (3:3:0) F.S. Prerequisite: Math 214. Staff
LaPlace transforms, complex variables, partial differential equations, Bessel's functions.
- 371 (371, 372). **Introduction to Modern Algebra.** (3:3:0) F. Prerequisite: Math 112. Robinson
An introduction to modern abstract algebra, including the study of groups, rings, and fields.
- 372 (372, 373). **Introduction to Linear Algebra.** (3:3:0) S. Prerequisite: Math 112. Robinson
An introduction to linear algebra, including the study of linear spaces, linear transformations, and matrices.
- 387 (387). **Theory of Numbers.** (3:3:0) F. Prerequisite: Math 111. Staff
Foundations of number theory, congruences, residues, reciprocity law, Diophantine equations.
- 435 (334, 335). **Intermediate Differential Equations.** (2:2:0) S. Prerequisite: Math 214. Staff
Special types, series solutions, hypergeometric functions.
- 491, 492 (491, 492, 493). **Seminar.** (1:1:0 ea.) F.S. Prerequisite: Math 214. Staff
All math-major seniors must take one semester.

Advanced Undergraduate or Graduate Courses

- 541, 542 (541, 542, 543). **Advanced Calculus.** (3:3:0 ea.) F.S. Prerequisite: Math 214. Staff
- 551, 552 (551, 552, 553). **Topology.** (3:3:0 ea.) F.S. Prerequisite: Math 214. Fearnley

These courses also count in mathematics:

Statistics 521, 522. **Theory of Statistics.** (3:3:0)

Statistics 541. **Advanced Probability.** (2:2:0)

Graduate Courses

- 617, 618 (617, 618, 619). **Mathematical Physics.** (3:3:0 ea.) F.S. Prerequisite: Math 316; recommended prerequisite: Math 542. Staff
- 631, 632 (631, 632, 633). **Complex Analysis.** (3:3:0 ea.) Prerequisite: Math 316; recommended prerequisite: Math 542. Staff
- 641, 642 (641, 642, 643). **Functions of a Real Variable.** (3:3:0 ea.) F.S. Prerequisite: Math 214; recommended prerequisite: Math 542. Staff
- 647, 648 (647, 648, 649). **Partial Differential Equations.** (3:3:0 ea.) Arr. Prerequisite: Math 214; recommended prerequisite: Math 542. Staff
- 671, 672 (671, 672, 673). **Modern Algebra.** (3:3:0 ea.) F.S. Prerequisite: Math 371. Robinson
- 681, 682 (681, 682, 683). **Linear Algebra.** (3:3:0 ea.) F.S. Not given this year. Prerequisite: Math 372. Robinson
- 695 (695). **Readings in Mathematics.** (1-2:1-2:0) F.S. Staff
- 699 (699). **Thesis for Master's Degree.** (Arr.) F.S. Staff
Thesis in progress. No credit.

Mechanical Engineering Science

Professor: Baxter.

Associate Professors: Simonsen (chairman, 274 ELB), Ulrich.

Assistant Professors: Beebe*, Cannon*, Gardner*, Wille*.

Instructor: Kugath.

The Mechanical Engineering Department offers a curriculum fully accredited by the Engineers Council for Professional Development. The curriculum involves a five-year program leading to the degree of Bachelor of Engineering Science in mechanical engineering. The student completing the prescribed course of study will receive a broad and comprehensive training in mechanical engineering in addition to the general and religious education given to all undergraduate students at Brigham Young University.

Required Preparation

The expected graduation date of a person enrolled in mechanical engineering is largely determined by the time required for him to complete the "pre-engineering" requirements and be admitted into third-year standing. The normal pre-engineering course requirements are those contained in the first two year course outlined below. To take the courses in their normal sequence it will be necessary for the student to have completed the following high school preparatory courses:

3 units of English.

3 units of mathematics which include at least one unit of plane geometry and one and one-half units of algebra with additional course work in algebra, trigonometry, or solid geometry strongly recommended.

An additional unit of physical science, either chemistry or physics, is strongly recommended.

A student who has not met these requirements may make up his deficiencies by enrolling in special courses designed for this purpose, or by successfully passing an examination.

Upon enrollment in pre-engineering, a student will be given a placement test. If his high school training is found deficient, he may be required to take remedial work. On the other hand, if this test shows unusual proficiency he may be excused from taking some of the more elementary courses.

To help either the student deficient in his high school preparation or the student who desires to speed up his progress toward graduation, the University will offer all major pre-engineering courses each semester and each summer session. The frequency of offering these courses should allow the deficient student to complete his remedial work and still graduate in five years as well as allowing the student with superior preparation to complete the program in less than five years. Some remedial courses are also offered through Extension Services; direct inquiry to Extension Services will bring information on their offering. The speed with which a student completes his pre-engineering requirements will determine how soon he is admitted to the Mechanical Engineering Department as a full major.

Grade Requirements

A student must have received an average grade of "C" or better in calculus and physics before being admitted at the end of his pre-engineering as a regular third-year student in the department. A student who has not obtained this average may petition for special consideration. If he is then admitted, it will be on a

probationary basis subject to periodic review. If his work subsequently proves unsatisfactory, he will be dropped from the department. A list of accepted students will be maintained in the department office.

In addition to the regular University academic requirement, a grade of "C" or higher is required in all prescribed courses taken after being admitted as a third-year student. If a grade lower than "C" is received in any required course, the student must repeat the course unless he petitions the department faculty and is excused. A "D" grade in a course which is a prerequisite for another course may be considered to fill the prerequisite requirement so that the student may continue in the course sequence. This in no way rescinds the restriction explained above regarding the removal of a grade lower than "C". Deviations from this rule may be made by the department faculty, upon petition, when deviations appear justified. In order to receive a Bachelor of Science Degree in mechanical engineering it is necessary to have a 2.0 minimum average in all course work at the University.

General Education Group Requirements

Engineering science students are subject to all of the General Education requirements listed in the Student Academic Services section of this catalog. Except when necessary the biological science requirement may be reduced to four semester-hours instead of the six semester-hours specified. All four hours may be obtained in a single course if desired.

Requirements for Major

To obtain a degree the student must complete the sequence of courses listed below, and must work at least one summer during his last three years of residence in an industry related to the field of mechanical engineering. The student should consult in advance with the department chairman regarding his summer employment.

The following abbreviations are used in the description below: Ch.E. for chemical engineering; C.E. for civil engineering; E.E. for electrical engineering; and M.E. for mechanical engineering.

Engineering students may register for 18 hours exclusive of physical education and forum in any one semester without obtaining special permission.

Normal Sequence of Courses for Majors

Pre-Engineering

First Year			Second Year		
	F	S		F	S
Chemistry 105, 106	4	4	Physics 211, 213	4	4
Math 111, 112*	5	5	Physics 212, 214	1	1
English 111, 112	3	3	Math 213, 214	5	5
C.E. 101, 102	2	2	C.E. 203, 301	2	3
Religion	2	2	Religion	2	2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Electives	3	3
M.E. 100, Health 130	1	2	Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$

*All students must take the mathematics placement test before or at the time of registration. The results of this test will indicate whether the student is prepared to take this mathematics sequence. The results of this test may also excuse the student from a portion of these requirements.

Mechanical Engineering

Third Year							
	F	S					
Math 315, 316	3	3		M.E. 441		3	
M.E. 321, 322	3	3		M.E. 433		3	
C.E. 303, 304	3	3		M.E. 422	2		
Ch.E. 378		3		C.E. 401	2		
E.E. 301, 302	4	4		Religion and groups	4		3
Religion	3						
M.E. 331, 361	2	2		Total Hours	18		17
Total Hours	18	18					
Fourth Year				Fifth Year			
	F	S			F	S	
M.E. 412, 413	4	3		M.E. 535	3		
M.E. 431, 432	4	5		M.E. 590	1		
M.E. 461	2			M.E. 591		1	
				Bus. Mgt. 585		3	
				Group electives	6	4	
				Restricted electives*	6	9	
				Total Hours	16		17

*The restricted electives are to be chosen from the electives offered by the Mechanical Engineering Science Department or, by petition, from subjects offered in other departments.

Lower Division Course

- 100 (100). Engineering Orientation.** (1:1:0) F.S. Staff
Introduction to the fields and profession of engineering. Required of all freshman engineering students.

Upper Division Courses

- 310 (410). Elements of Fluid Mechanics.** (3:3:0) F.S. Prerequisites: Mathematics 214; C.E. 302, M.E. 320. Staff
A survey course in fluid mechanics for electrical engineers.
- 320 (327). Elements of Thermodynamics.** (3:3:0) F.S. Prerequisites: Mathematics 214; Physics 213. Staff
First and second laws; properties of systems; thermodynamics of gases and vapors; applications to thermodynamic cycles. Designed for students not majoring in mechanical engineering.
- 321, 322 (320, 321, 322). Thermodynamics.** (3:3:0) F.S. Prerequisites: Mathematics 214; Physics 213. Staff
First law and applications, thermodynamic systems, properties of gases, liquids, and vapors. Second law and applications, entropy; properties of gaseous mixtures, fluid flow; gas and vapor cycles and applications to machinery; refrigeration; compression of gases; air-water vapor mixtures.
- 331 (331). Manufacturing Processes.** (2:1:3) F. Staff
A survey of general manufacturing processes, including smelting, refining, casting, cutting, machining, welding, and joining of engineering materials.
- 361 (360). Thermodynamics Laboratory.** (2:1:3) S. Prerequisite: completion of or concurrent registration in M.E. 321. Staff
Measurements of physical properties and quantities as they apply to mechanical engineering; special emphasis is given to primary measurements and instrumentation.
- 412 (410). Fluid Mechanics I.** (4:3:3) F. Prerequisites: Mathematics 214; C.E. 304; M.E. 320 or 322. Staff
Physical properties of fluids; fluid statics; viscous flow; dimensional

analysis; incompressible flow; compressible flow; fluid meters; lift and drag; dynamic similarity; momentum; potential theory; fluid machinery.

- 413 (411). Fluid Mechanics II.** (3:3:0) S. Prerequisites: Math 316, M.E. 411. Compressible flow; shock affects; Fanno and Rayleigh lines; generalized one dimensional flow.
- 422 (522). Combustion.** (2:2:0) S. Prerequisite: M.E. 222. **Staff**
Properties of fuels; characteristics of air-fuel mixtures; combustion characteristics.
- 431, 432 (430, 431, 432). Machine Design I and II.** (4:2:6) F. (5:3:6) S. Prerequisites: C.E. 303, 304.
Velocities and accelerations in machine parts; rolling contact; cams, gearing, flexible connectors, theory and design of machine elements; proportioning of machine parts according to the laws of mechanics and engineering materials.
- 433 (New). Advanced Mechanics of Materials.** (3:3:0) F. Prerequisites: C.E. 303, 401. **Staff**
Concepts of dynamic failure mechanisms in engineering materials. The origin and significance of residual stresses resulting from manufacturing processes. Relations between residual stresses and fatigue failure phenomenon. Design of high strength, light weight structures which are subjected to dynamic loading conditions.
- 441 (441). Heat Transfer.** (3:3:0) S. Prerequisites: M.E. 322, 412; Mathematics 316. **Staff**
Fundamental principles of heat transfer by conduction, convection, and radiation.
- 461 (460, 461). Heat Power Laboratory.** (2:1:3) F. Prerequisites: M.E. 322, 361. **Staff**
Engineering analysis applied to thermodynamic cycles and processes. Analytical prediction of performance and comparison with experimental results.
- 471 (571). Refrigeration.** (2:2:0) Arr. Prerequisite: M.E. 322. **Staff**
Cycles and analysis; selection of systems and component parts; estimation of loads.
- 472 (572). Heating, Ventilating and Air Conditioning.*** (2:2:0) Arr. Prerequisite: M.E. 322. **Staff**
Heating and cooling for comfort. Design of warm air, hot water, and steam heating systems for residence and commercial buildings.

Advanced Undergraduate or Graduate Courses

- 521 (520). Advanced Thermodynamics.*** (3:3:0) Arr. Prerequisites: M.E. 322; Mathematics 316. **Staff**
Extended treatment of the fundamentals of thermodynamics including transient conditions, equilibrium, combustion.
- 531 (530). Principles of Automatic Control.*** (3:3:0) Arr. Prerequisites: M.E. 412; E.E. 302; Mathematics 316.
Transfer functions applied to mechanical, hydraulic, pneumatic, and electrical components, and their combination. Block diagrams, Nyquist and Routh Criteria. Bode's and Root Locus Plots, Integral and error rate compensation. Non-linear systems.
- 532 (531). Special Topics in Machine Design.*** (2:2:0) Arr. **Staff**
Selected topics in the behavior of engineering materials and advanced mechanics of materials as applied to the design of machine members.
- 533 (New). Stress Analysis in Machine Components.** (3:3:0) Arr. Prerequisites: C.E. 303; Mathematics 316. **Staff**
Statically indeterminate structures, columns, tension and shear fields, shell analysis, curved beams and rings, buckling of columns and compression

panels, torsion analysis of irregular shapes, and combined loads and stresses. Particular emphasis is given to aircraft and missile flight vehicles and ground handling equipment.

- 535 (535). Mechanical Vibrations.** (3:3:0) F. Prerequisites: Mathematics 316; C.E. 302. Staff
Fundamentals of simple vibrating systems with applications.
- 541 (541). Advanced Heat Transmission.*** (3:3:0) Arr. Prerequisite: M.E. 441. Staff
Extension of M.E. 441 to include numerical and approximate methods of solution, transient problems, and solution of problems by analogy methods.
- 581 (581). Internal Combustion Engines.*** (3:2:3) Arr. Prerequisite: M.E. 422. Staff
Basic principles; theoretical and actual cycles; performance characteristics with experimental laboratory analysis.
- 583 (583). Principles of Turbomachinery.*** (2:2:0) Arr. Prerequisites: M.E. 322, 413. Staff
Analysis and design of all types of turbomachinery.
- 585 (585). Jet Propulsion Power Plants.*** (2:2:0) Arr. Prerequisites: M.E. 422. Staff
Analysis of power plants, including performance of prime movers, economics, and matching of components.
- 590 (590). Mechanical Engineering Problems.** (1:0:3) F. Prerequisite: fifth year standing. Staff
Selected problems from the field which will enable the student to integrate his fundamental knowledge in their solutions.
- 591, 592 (591, 592, 593). Seminar.** (1:1:0 ea.) F. Prerequisite: fifth year standing. Staff
Student and faculty presentation of topics of special and current interest.
- 595, 596 (596, 597, 598). Special Problems.*** (Arr.) Arr. Prerequisite: consent of department chairman. Staff
- 597 (599). Undergraduate Research.*** (Arr.) Arr. Prerequisite: consent of department chairman. Staff

Graduate Courses

- 611 (610). Fluid Dynamics.*** (3:3:0) Arr. Prerequisites: M.E. 413; Mathematics 316. Staff
Steady and unsteady flow of compressible and incompressible fluids; principles of operation of fluid dynamical machinery.
- 612 (New). Gas Dynamics.*** (3:Arr.:Arr.) Arr. Staff
- 621, 622 (New). Thermodynamics Theory I, II.*** (3:Arr.:Arr. ea.) Arr. Staff
- 635 (635). Advanced Vibration Analysis.*** (3:3:0) Arr. Prerequisite: M.E. 535. Staff
Vibration characteristics of systems with several degrees of freedom; elastic bodies; systems with transient vibrations, and simple non-linear systems.
- 636 (New). Advanced Vibrations II.*** (3:Arr.:Arr.) Arr. Staff
- 641, 642 (New). Heat Transfer Theory I, II.*** (3:Arr.:Arr. ea.) Arr. Staff
- 661, 662 (New). Elasticity in Engineering.*** (3:Arr.:Arr. ea.) Arr. Staff
- 697 (New). Master's Candidate Research.*** (Arr.) Arr. Staff
- 699 (New). Thesis for Master's Degree.*** (1-4:Arr.:Arr.) Arr. Staff

*Electives offered upon approval of department chairman. Frequency based upon demand.

Music

Professors: de Jong, Halliday, Jepperson-Madsen (emeritus), Madsen (emeritus) Sardoni.

Associate Professors: Gates (chairman, 255 C), Earl, Goodman.

Assistant Professors: Buggert (emeritus), Ballou, Cannon, Cundick, Gulbrandesen, Hansen (emeritus), Keeler, H. Laycock, R. Laycock, Nordgren, Terry, Wakefield, Weight, R. Woodward.

Instructors: Bos, Bradley, Bradshaw, Curtis, Edlefsen, Freed, Fitzroy, Fuerstner, Groesbeck, Mathews, McAllister (emeritus), McMurdie, Nibley, Nelson, Weinzing, Wilkes, M. Woodward.

The Music Department presupposes that a student who wishes to major in music will have had previous training in music before entering the University. In order to determine the degree of attainment in basic musical skills, each entering freshman and transfer student who desires to major in music will be given the Music Department entrance test which is given First Semester during the orientation days.

Anyone who majors or minors in music should expect to attend the lyceums as well as Music Department recitals and concerts. Therefore, majors must accumulate six semesters of satisfactory attendance at such events during their four years of study. (Minors need accumulate only four semesters of satisfactory attendance.) In order to achieve satisfactory attendance, a student must attend 70% of such concerts or recitals during any one semester. Students who fail to accumulate the necessary satisfactory attendance are required to take Music 103 during their last semester before graduation.

Music Majors

A baccalaureate degree in music can be taken with a major in applied music, music theory, or music education (secondary). The curriculum for a major in applied music or music theory leads to the Bachelor of Arts degree. The curriculum for a major in music education leads to either the Bachelor of Arts or the Bachelor of Science degree.

Music Minors

Those who wish to minor in music should take Music 103, 191, 192, 2 hours of ensembles, and 6 hours of electives in music.

Music Education Minors

Elementary.

Prospective elementary school teachers who desire a minor in music are required to take Music 101, 191, 193, 201, 202, 4 hours of ensemble (band, orchestra, or chorus), and 3 hours of class and/or private piano.

Secondary.

A—Instrumental: Prospective secondary school teachers who desire a teaching minor in instrumental music are required to take the following courses: Music 101, 191, 193, 201, 202; 4 hours of band or orchestra; 6 hours selected from the following: Music 160p, 360p (on instrumental specialty), 368, 370, 372, 375*.

B—Vocal: Prospective secondary school teachers who desire a teaching minor in vocal music are required to take the following courses: Music 101, 191, 193, 201, 202, 374; 4 hours of group and/or private voice; and 4 hours of vocal ensemble.*

Degree in Applied Music

To receive a Bachelor of Arts degree with a major in applied music,* a student completes the following music courses or their equivalent:

	Hours
Music 191, 192, 193, 194, 291, 292	16
Music 201, 202 and either Music 374 or 375	6
Music 484, 485	6
Music 491	3
Music ensemble	8
Private instruction on major instrument or voice	16
(Keyboard majors take 2 hours of ensemble plus 262, 263, 391, and 462.)	

Majors in the various fields of applied music are required to take certain special classes in addition to the above requirements:

Piano majors take Music 563, 564, 565.

Organ majors take Music 467, 468.

Woodwind majors take Music 368.

Brass majors take Music 370.

String majors take Music 372.

Voice majors take Music 566, 567, 568.

The hours to be taken in individual or group instruction may be reduced if a student, as determined by entrance examinations, has already had considerable training in these areas. At the end of each year of individual instruction the student takes an examination on his major instrument or in voice to determine his level of achievement. For the examination, each candidate submits a list of his repertoire indicating composition or studies especially prepared for the examination. Forms on which a record of the student's repertoire is kept and outlines of instrumental and vocal proficiency requirements are available at the Music Department office.

Majors in applied music (except keyboard majors—see ensemble requirements above) participate in a music ensemble each semester of their undergraduate training. Instrumental majors participate in at least one instrumental ensemble and one vocal ensemble. Voice majors sing in at least two vocal ensembles.

A major in applied music must accumulate at least sixty minutes of recital appearance time either as soloist or chamber music ensemble performer.

The following sequence of courses is recommended for majors in applied music.

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
English	3	3	Language (1st or		
Physical education ½	½	½	2nd year)	4	4
Health 130	2		Music 201, 202	2	2
Music 160p			Music 291, 292	4	4
(on specialty)	2	2	Music 160p	2	2
Ensemble	1	1	Ensembles	1	1
Music 191, 192	2	2	Physical education	½	½
Music 193, 194	2	2	Devotional assembly	½	½
Music 97, 98, if needed ..	0	0			
General education		3	Total Hours	16	16
Devotional assembly	½	½			
Total Hours	15	16			

Junior Year			Senior Year		
	F	S		F	S
Religion	3	2	Music 491		3
Language (2nd year)	4	4	Ensemble	1	1
Music 484, 485	3	3	Music 360p	2	2
Music 374 or 375	2	or 2	Electives (These must		
Ensemble	1	1	include the special		
Music 360p	2	2	music classes.)	1-2	1-2
Electives (These must			General education	11-12	6
include the special			Electives		1-2
music classes.)		1-2			
Devotional assembly	$\frac{1}{2}$	$\frac{1}{2}$	Total Hours	15-17	14-16
General education	2				
Total Hours	15½-17½	13½-16½			

Degree in Music Theory

For a Bachelor of Arts degree with a major in music theory, a student is required to complete the following music courses or their equivalents:

	Hours
Music 191, 192, 193, 194, 291, 292, 391, 491, 571, 572	28
Music 201, 202 and 374 or 375	6
Music 484, 485	6
Music 160p or 360p (functional piano, pass sophomore	
proficiency standards)	4
Ensemble	4
Music 581 or 587	3
Individual instruction on specialty	4
Advanced music literature	2-3

The hours to be taken in individual or group instruction may be reduced if a student, as determined by entrance examinations has already had considerable training in these areas. At the end of each year of individual instruction the student takes an examination on his major instrument or in voice to determine his level of achievement. For the examination, each candidate submits a list of his repertoire indicating compositions or studies especially prepared for the examination. Forms on which a record of the student's repertoire is kept and outlines of instrumental and vocal proficiency requirements are available at the Music Department office.

Majors in music theory participate in musical ensembles a minimum of four semesters of undergraduate training. The student performs in at least two ensembles. A student whose specialty is a band or orchestral instrument takes two hours of instrumental ensemble and two hours of choral ensemble. A student whose specialty is voice sings in at least two vocal ensembles.

The ability to play the piano is an indispensable tool for music theory majors; consequently, every major in music theory must pass a piano proficiency examination (second year standards) during the first semester of residence or take group or individual piano instruction until he passes the examination.

The following sequence of courses is recommended for majors in music theory:

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion	2	2
Devotional assembly	$\frac{1}{2}$	$\frac{1}{2}$	Devotional assembly	$\frac{1}{2}$	$\frac{1}{2}$
English	3	3	Language (1st or		
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	2nd year)	4	4
Music 160p			Music 291, 292	4	4
(on specialty)	2	2	Music 201, 202	2	2
Music 191, 192	2	2	Music 160p	2	2
Music 193, 194	2	2	Ensembles	1	1
Ensembles	1	1	Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Health 130	2				
General education		3	Total Hours	16	16
Music 97, 98, if needed ..	0	0			
Total Hours	15	16			

Junior Year			Senior Year		
	F	S		F	S
Religion	3	2	Music 571, 572	3	3
Language (2nd year)	4	4	Music 581 or 587	3	
Music 391	3		Literature (humanities)		2
Music 491		3	General education	9	6
Music 484, 485	3	3	Electives		1-2
Music 374 or 375	2	or 2	Advanced		
General education		2-3	music literature		4
Devotional assembly	$\frac{1}{2}$	$\frac{1}{2}$	Total Hours	15	16-17
Total Hours	13½-15½	14½-17½			

Prospective secondary school teachers may elect a composite music education major, a composite vocal major, or a composite instrumental major.

To receive a Bachelor of Science degree with a composite music education major, a student is required to complete the following music courses or their equivalents:

	Hours
Music 191, 192, 193, 194, 291, 292	16
Music 201, 202	4
Music 363*, 364*, 367, 368, 370, 372	9
Music 374, 375, 378	5
Music 484, 485	6
Ensemble	4
Private instruction on specialty	12

*For students with instrumental specialties only. Those students taking voice as specialty should not enroll in this class.

Band instrumentalists who pursue one of the music education degrees participate at least one first semester in marching band and one second semester in varsity band, preferably on a minor instrument. Voice majors sing in at least two ensembles.

For the Bachelor of Science degree with a composite major in music education the student pursues the following sequence of courses:

Freshman Year			Sophomore Year		
	F	S		F	S
Religion	2	2	Religion		2
Devotional assembly	$\frac{1}{2}$	$\frac{1}{2}$	Devotional assembly	$\frac{1}{2}$	$\frac{1}{2}$
English	3	3	General education	3	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Music 160p		
Health 130	2		(on specialty)	2	2
Music 160p			Music 291, 292	4	4
(on specialty)	2	2	Ensemble	1	
Music 191, 192	2	2	Music 484		3
Music 193, 194	2	2	Music 368	2	
Ensemble	1	1	Music 370		2
Music 363*, 364*	1	1	Music 372	2	
Music 201		2	Music 374		2
Music 97, 98, if needed..	0	0	Music 202	2	
			Physical education	$\frac{1}{2}$	$\frac{1}{2}$
Total Hours	16	16	Total Hours	17	16

Junior Year			Senior Year		
	F	S		F	S
Religion	3	2	Religion	2	
Devotional assembly	$\frac{1}{2}$	$\frac{1}{2}$	Devotional assembly		$\frac{1}{2}$
Music 485	3		Music 360p	2	
Music 360p	2		Ensemble	1	1
Music 375	2		E.R.S. 403	4	
Music 367		1	Ed. Phil. 410		3
Music 378		1	Literature		3
General education	3		Humanities (3rd field) ..		2
Music 377	3		General education	8	6
Music 479		8			
Ed. Instr. 405		2	Total Hours	17	15 $\frac{1}{2}$
Health Ed. 362		2			
Ensemble	1				
Total Hours	17 $\frac{1}{2}$	16 $\frac{1}{2}$			

Lower Division Courses

97, 98 (107, 108, 109). Group Piano Instruction. (0:0:2 ea.) F.S.

Bradshaw, Keeler, McMurdie, Wakefield

Designed for those music majors and minors who cannot pass the piano proficiency examination. Not open to piano majors.

101 (101). Introduction to Music. (3:3:0) F.S.Su. (G-HA)

Bos, Cannon, Earl, Gates, Wakefield, Wilkes

Non-technical introduction to the fundamental concepts of melody, rhythm, harmony, form, etc., as a basis for understanding and enjoying the masterpieces of our musical heritage. Open to all students without previous training in music.

102 (102). Music Fundamentals and Skills for Elementary Education Teachers. (2:2:1) F.S.Su.

Groesbeck, Terry

Practical experiences in fundamentals and skills of music. Instruction in techniques of playing simple melody and harmony instruments and writing music symbols. Required of elementary education majors.

103 (103). Survey of Music Literature. (2:2:0) F.S.Su. (G-HA)

Earl, Wakefield, Wilkes

Music masterpieces from the Renaissance to the present. No prerequisite, but designed for students with some experience in music.

- 105 (105). Class Piano for Beginners in Music.** (2:2:0) F.S.Su. McMurdie, Staff
 Minimum of one hour daily practice required outside of class. Instruction in notation of music and in keyboard technique, especially designed for prospective elementary school teachers.
- 110 (110). University Chorale.** (1:0:5) F.S.Su. Weinzinger
- 116 (116). Male Chorus.** (1:0:5) F.S. Prerequisite: consent of director. Gulbrandsen
- 119 (119). Women's Chorus.** (1:0:5) F.S. Prerequisite: consent of director. McMurdie
- 125 (125). A Cappella Choir.** (1:0:5) F.S. Prerequisite: consent of director. Weight
- 128 (128). Opera Workshop.** (1:0:5) F.S.Su. Prerequisite: consent of director. Earl
- 131 (New). Oratorio Choir.** (1:0:5) F.S. Prerequisite: consent of director. Halliday
- 134 (New). Basic Choral Training.** (1:0:2) F. Prerequisite: admission by audition. Staff
 The development of basic skills in choral singing and a knowledge of music fundamentals preparatory to membership in select choral groups.
- 135 (135). Varsity and Marching Band.** (1:0:5) F.S. Prerequisite: consent of director. Ballou
- 138 (138). Concert Band.** (1:0:5) F.S.Su. Prerequisite: consent of director. R. Laycock
- 144 (144). Theatre Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director. R. Laycock
- 147 (147). Symphony Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director. Sardoni
- 149 (New). Collegium Musicum.** (1:0:3) F.S. Prerequisite: consent of director. Cannon, Fuerstner
 Designed for advanced instrumentalists and vocalists (non-music majors as well as music majors) for credit or audit. Reading of music literature and study of performance practices, medieval to contemporary. Some reading performances for music classes and recital series.
- 150 (150). Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3) F.S.Su. Staff
- 160p (160p). Private Instruction.** (2:1:0) F.S.Su. Staff
 Fifteen lessons per semester. Special fee.
- Brass—trumpet, cornet, French horn, trombone, baritone, tuba:
Ballou, R. Laycock, Wilkes
- Harp:
Bradley
- Harpsichord:
Wakefield
- Organ:
Keeler
- Percussion:
Johnson, R. Laycock
- Piano:
Bradshaw, Cundick, de Jong, Fitzroy, Fuerstner, Gates, Keeler, Nelson, McMurdie, Wakefield
- Recorder:
Wakefield
- Strings—violin, viola, cello, string bass:
Goodman, H. Laycock, Nibley, Nordgren, Sardoni
- Voice:
Curtis, Earl, Gulbrandsen, Halliday, Jepperson-Madsen, F. Madsen, Mathews, McAllister, Terry, Weight, Weinzinger, M. Woodward, R. Woodward
- Woodwinds—flute, oboe, clarinet, bassoon, saxophone:
Bos, Edlefsen, R. Laycock

- 170 (170). Group Vocal Instruction.** (1:2:0) F.S.Su. Terry, Weinzinger
Class instruction for beginners in vocal production.
- 191, 192 (190, 191, 192). First Year Basic Theory.** (2:3:0 ea.) F.S. Prerequisites: reading ability in music and one year of piano study or concurrent registration in Music 97, 98. Staff
Tonal harmony, part writing, modulation, analysis, simple forms. Must be taken with 193 and 194 respectively unless required proficiency in music skills is demonstrated.
- 193, 194 (190, 191, 192). First Year Basic Music Skills.** (2:0:4 ea.) F.S. Prerequisites: reading ability in music and one year of piano study, or concurrent registration in Music 97, 98. Staff
Ear training, dictation, sight singing, keyboard. Two 2-hour periods per week. Must be taken with 191 and 192 respectively unless proficiency in part-writing is demonstrated.
- 201 (301). Baton Technique and Hymnody.** (2:2:0) F.S.Su. Prerequisites for music majors and minors: Music 191, 193. Staff
- 202 (302). Essentials in Conducting.** (2:2:0) F.S. Prerequisites: Music 191, 193 or equivalent, and Music 201. Staff
- 237 (237). Music and Materials for Elementary Children.** (2:2:1) F.S.Su. Prerequisite: Music 102. Groesbeck, Terry
Materials, methods, and problems pertaining to the teaching of music to elementary children. Required of all elementary education majors.
- 262 (466). The Art of Piano Accompaniment.** (1:0:2) F.Su. Fuerstner
- 263 (263). Piano Accompanying.** (1:0:3) F.S.Su. Staff
- 291 (290, 291). Second Year Basic Theory.** (4:4:3) F. Prerequisites: Music 192 194. Staff
Diatonic and chromatic harmony, modulation, ear training, dictation, sight singing, keyboard, chorale, harmonization, form and analysis, elementary composition. Three hour ear training lab per week.
- 292 (291, 292). Second Year Basic Theory.** (4:5:0) S. Prerequisite: Music 291. Staff
Harmonic counterpoint, analysis of harmonic and contrapuntal forms, arranging for choral and instrumental groups, elementary composition.
- 294 (293, 294). Theory Review.** (2:0:5) Su. Prerequisite: Music 292 or equivalent. Staff
Designed to help transfer and graduate students regain the necessary understanding and skills needed to do advanced work in music.

Upper Division Courses

- 310 (310). University Chorale.** (1:0:5) F.S.Su. Weinzinger
- 316 (316). Male Chorus.** (1:0:5) F.S. Prerequisite: consent of director. Gulbrandsen
- 319 (319). Women's Chorus.** (1:0:5) F.S. Prerequisite: consent of director. McMurdie
- 325 (325). A Cappella Choir.** (1:0:5) F.S. Prerequisite: consent of director. Weight
- 328 (328). Opera Workshop.** (1:0:5) F.S.Su. Prerequisite: consent of director. Earl
- 331 (New). Oratorio Choir.** (1:0:5) F.S. Prerequisite: consent of director. Halliday
- 335 (355). Varsity and Marching Band.** (1:0:5) F.S. Prerequisite: consent of director. Ballou

- 338 (338). Concert Band.** (1:0:5) F.S.Su. Prerequisite: consent of director.
R. Laycock
- 344 (344). Theatre Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.
Earl
- 347 (347). Symphony Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.
Sardoni
- 349 (New). Collegium Musicum.** (1:0:3) F.S. Prerequisite: consent of director.
Cannon, Fuerstner
Designed for advanced instrumentalists and vocalists (non-music majors as well as music majors) for credit or audit. Reading of music literature and study of performance practices, medieval to contemporary. Some reading performances for music classes and recital series.
- 350 (350). Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3) F.S.Su. Staff
- 360p (360p). Private Instruction.** (2:1:0) F.S.Su. Staff
Fifteen lessons per semester. Special fee. (For staff see 160p.)
- 363, 364 (363, 364, 365). Vocal Workshop.** (1:0:2 ea.) F.S. Woodward
Voice building, problems of solo and group singing, and survey of solo and small ensemble literature. Designed for music education majors with instrumental specialties only. Those students taking voice as specialty should not enroll in this class.
- 367 (367). Percussion Workshop.** (1:0:5) S.Su. ($\frac{1}{2}$ semester) Prerequisite: Music 192 or its equivalent. R. Laycock
Designed to help music education majors learn to play and to teach percussion instruments. Survey of materials.
- 368 (368, 369). Woodwind Workshop.** (2:0:5) F.Su. Prerequisite: Music 192 or equivalent. Bos, Edlefsen, R. Laycock
Designed to help music education majors learn to play and to teach woodwind instruments. Survey of materials.
- 370 (370, 371). Brass Workshop.** (2:0:5) S.Su. Prerequisite: Music 192 or equivalent. Staff
Designed to help music education majors learn to play and to teach brass instruments. Survey of materials.
- 372 (372, 373). String Workshop.** (2:0:5) F.Su. Prerequisite: Music 192 or equivalent. Staff
Designed to help music education majors learn to play and to teach string instruments. Survey of materials.
- 374 (374). Choral Practicum.** (2:0:5) S.Su. Prerequisites: Music 202, 364, or equivalent. Weight, Woodward
Designed for music education majors. Experience in choral conducting and singing of typical school materials. Observation and application of rehearsal techniques.
- 375 (375, 376). Instrumental Practicum.** (2:0:5) F.Su. Prerequisites: Music 202, 367, 368, 370, 372, or equivalent. R. Laycock
Experience for music education majors in orchestra and band conducting and playing of school materials on the students' minor instruments. Observation and application of rehearsal techniques.
- 378 (378). General Music Practicum.** (1:0:5) S. ($\frac{1}{2}$ semester). Terry
Designed for music education majors. Experience in materials, methodology, and management of the general music education program in public schools.
- 391 (390, 391). Harmony at the Keyboard.** (3:3:0) F. Prerequisites: Music 192 and moderately advanced keyboard technique. Keeler
Harmonization of figured and unfigured basses and other voices; ca-

dences, sequences, transpositions, modulations, and improvisations at the keyboard.

- 463 (463). Piano Accompanying.** (1:0:3) F.S.Su. **Staff**
- 467, 468 (467, 468). Organ Problems.** (2:2:0 ea.) F.S. Prerequisites: advanced standing as an organ student, and consent of instructor. **Keeler**
Registration, accompaniment playing, and related problems.
- 484, 485 (383, 484, 485). History of Music.** (3:3:0 ea.) F.S.Su. (G-HA) Pre-requisites: Music 192 or Music 101, 102, and 103 or equivalent.
Cannon, Wakefield, Wilkes
- 491 (New). Analytical Techniques.** (3:3:0) S.Su. Prerequisite: Music 292.
Bradshaw
Development of skill in recognizing processes by which the basic elements of music are organized into compositions of various forms and styles.

Music Education

- 377 (377). Secondary Teaching Procedures.** (3:3:1) F. Prerequisite: Instruction 301. **Staff**
See Instruction 377.
- 479 (479). Secondary Student Teaching.** (8: full day, last half of semester) S. Prerequisite: Music 377. **Staff**
See Instruction 479.

Advanced Undergraduate or Graduate Courses

- 501 (489). Music in America.** (3:3:0) S.Su. Prerequisites: Music 484, 485 or consent of instructor. **Wilkes**
- 537x (537x). Music for Elementary School Teachers (Advanced).** (2:2:0) Home Study only. Prerequisites: Music 102, 237. **Groesbeck**
Experiences in teaching various music activities in the elementary school.
- 563, 564 (563, 564). Piano Repertoire.** (1:0:2 ea.) F.S.Su. Prerequisite: advanced standing as a pianist. **Fuerstner**
- 565 (565). Piano Pedagogy.** (2:2:0) S. Prerequisite: advanced standing as a pianist. **Keeler**
Methods, materials, and problems in teaching piano.
- 566, 567 (566, 567). Vocal Repertoire.** (1:0:2 ea.) F.S.Su. Prerequisite: advanced ability as a singer. **Weinzinger**
- 568 (568). Vocal Pedagogy.** (2:2:0) S.Su. Prerequisite: advanced standing as a singer. **Weight**
Methods, materials, and problems in teaching voice.
- 571, 572 (670, 671, 672). Counterpoint.** (3:3:0 ea.) F.S.Su. Prerequisite: Music 292. **Cundick**
- 581, 582 (680, 681, 682). Orchestration.** (3:3:0 ea.) F.S.Su. Prerequisite: Music 292. **Gates**
- 587, 588 (587, 588, 589). Composition.** (3:3:0 ea.) F.S.Su. Prerequisite: Music 292. **Fuerstner, Gates**

Graduate Courses

- 601 (601). Music in the Primary Grades.** (2:2:0) F. Prerequisites: Music 102, 237, and the equivalent of an elementary education teaching minor in music. **Groesbeck**
- 602 (602). Music in the Intermediate Grades.** (2:2:0) S. Prerequisites: Music 102, 237, and the equivalent of an elementary education teaching minor in music. **Groesbeck**

- 603 (New). Music in the Junior High School.** (2:2:0) S.Su. Prerequisite: Music 602 or equivalent. Terry
Advanced course for graduate students in music education. The principles, practices, and programs in the junior high school.
- 605 (605). Influence of Music on Behavior.** (3:3:0) F. Prerequisite: general psychology, sociology, or equivalent. Goodman
The sociological and psychological implications of music education in the public schools. Required of all graduate students majoring in music education.
- 612 (612). Music Education in Society.** (3:3:0) F. Prerequisites: Music 484, 485 or equivalent. Goodman
The application of music education to the economic, political, business, domestic, religious, and cultural aspects of society. Required of all graduate students majoring in music education.
- 613 (613). Basic Concepts in Music Education.** (2:2:0) F.Su. Goodman
The philosophical and historical aspects of music education, involving principles, objectives, practices, and programs. A course designed for and required of all graduate music students.
- 615 (615). Vocal Methods, Materials, and Resources.** (2:2:0) F.Su. Prerequisite: 479 or equivalent. R. Woodward
- 616 (616). Instrumental Methods, Materials, and Resources.** (2:2:0) S.Su. Prerequisite: Music 479 or equivalent. H. Laycock
- 620 (620). Advanced Conducting.** (2:2:2) F. Prerequisites: Music 374, 375 or equivalent. R. Laycock, Sardoni
- 625 (625). Summer Music Clinic.** (2:4:4 for two weeks during clinic). Su. Staff
May be counted as either music education or applied music.
- 635 (635). Musical Research Techniques.** (3:3:0) F.Su. Prerequisite: graduate standing or consent of instructor. Cannon, Earl
Required of all candidates for graduate music degrees.
- 637 (637, 638). History and Literature of Music before 1750.** (5:5:0) F.Su. Prerequisites: Music 484, 485 or equivalent. Cannon, Wilkes
- 638 (638, 639). History and Literature of Music after 1750.** (5:5:0) S.Su. Prerequisites: Music 484, 485 or equivalent. Cannon, Wilkes
- 640 (640, 641, 642). Symphonic Music.** (3:3:0) F.Su. Offered 1962-63 and alternate years. Prerequisites: Music 484, 485 or equivalent. Wilkes
- 643 (643, 644, 645). Chamber Music.** (3:3:0) S.Su. Offered 1962-63 and alternate years. Prerequisites: Music 484, 485 or equivalent. Wakefield
- 646 (646, 647, 648). Operatic Music.** (3:3:0) F.Su. Offered 1961-62 and alternate years. Prerequisites: Music 484, 485 or equivalent. Staff
- 649 (649, 650, 651). Choral Music.** (3:3:0) S.Su. Offered 1961-62 and alternate years. Prerequisites: Music 484, 485 or equivalent. Staff
- 652 (652). History of Notation and Paleography.** (3:3:0) F.Su. Prerequisites: Music 484, 485 or equivalent. Cannon
- 656 (656). Hymnology.** (2:2:0) S. Prerequisite: Music 484, 485 or equivalent. Weight
- 660p (660p). Private Instruction.** (2:1:0) F.S.Su. Staff
Fifteen lessons per semester. Special fee. (For staff see 160p).
- 663 (663). Solo Recital.** (2:0:6-10) F.S.Su. Staff
Required of all graduate students minoring in applied music.

- 673 (676, 677). **Form and Analysis.** (3:3:0) F.Su. Prerequisites: Music 491, 572. Bradshaw, Gates
- 675 (675). **Materials of Modern Music.** (3:3:0) S.Su. Prerequisite: Music 673. Bradshaw, Gates
- 686 (686). **Pedagogy of Music Theory.** (3:3:0) F.Su. Prerequisite: Music 292. Nordgren
- 687, 688 (687, 688, 689). **Composition.** (3:3:0 ea.) F.S. Su. Prerequisite: Music 588 or equivalent. Fuerstner, Gates
- 693 (693, 694). **Pro-Seminar in Music.** (2:2:0) S.Su. Prerequisite: Music 484, 485, 635 or equivalent and approval of advisory committee. Staff
Required of all candidates for graduate music degrees.
- 694 (695). **Independent Readings.** (2:0:6) F.S.Su. Prerequisite: Music 693 or equivalent. Goodman
- 695 (695). **Independent Readings.** (2:0:6) F.S.Su. Prerequisite: Music 693 or equivalent. Goodman
- 698 (698). **Composition for Master's Degree.** (2-4:Arr.:Arr.) F.S.Su. Prerequisite: approval of graduate advisory committee, based on evidence of ability in composition. Staff
To be submitted in lieu of a thesis by candidates for the master's degree majoring in composition.
- 699 (699). **Thesis for Master's Degree.** (2-4:Arr.:Arr.) F.S.Su. Prerequisite: approval of graduate advisory committee. Staff
Candidates for the master's degree are required to show competence in writing and research before work is started on the thesis.
- 753 (New). **Advanced Problems in Notation.** (3:3:0) S. Offered 1961-62 and alternate years. Prerequisite: Music 652. Cannon
- 754 (653). **History of Musical Instruments.** (3:3:0) F. Prerequisites: Music 484, 485 or equivalent. Wakefield
- 785 (685). **Historical Aspects of Music Theory.** (3:3:0) S.Su. Prerequisite: Music 292. Nordgren
- 791 (New). **Acoustics of Music.** (3:3:0) S. Prerequisite: Music 292. Staff
- 794 (New). **Seminar in Music.** (3:3:0) F.S.Su. Prerequisites: Music 635, 693, or equivalent, and approval of graduate advisory committee. Staff
- 799 (799). **Dissertation for the Doctor of Philosophy Degree.** (Arr.) F.S.Su. Prerequisite: approval of graduate advisory committee. Staff



Nursing

Professor: Allen (dean, 2240 SFLC).

Associate Professor: Jenny.

Assistant Professors: Allred, Kohler.

Instructors: Alward, Bethers, Briick, Drury, Durfey, Langer, Noall, Pace, Potter, Stevensen, Wilson.

Requirements for a Composite Major and Minor

The following program includes the requirements for a composite major and minor:

First Year						
	F	S	Su			
Theology 130, 131	2	2		Humanities	3	
English 111, 112	3	3		History 170		3
Physical education	½	½	½	Total Hours	18½	17 5
Chemistry 101, 102	4	4				
Zoology 105, 261	3	4		Third Year		
Psychology 111	3				F	S
Nursing 201		2		Religion	4	2
Nursing 211		2		Sociology 403	2	
Sociology 111			3	Nursing 351, 324	4	3
Bacteriology 121			3	Nursing 361, 334	6	3
Food and Nutrition 115			2	Nursing 475		2
Total Hours	15½	17½	8½	Nursing 477		2
				Nursing 485		4
				Total Hours	16	16
Second Year						
	F	S	Su			
Religion			2	Fourth Year		
Physical education	½				F	S
Nursing 380, 223	2	3		Religion	4	
Nursing 202, 233	5	4		Humanities		6
Nursing 212, 421	5	3		Nursing 325, 488	5	6
Nursing 431		4		Nursing 335, 490	5	3
H.D.F.R. 210	3			Total Hours	14	15
Physics 100	3					

For Non-Nursing Majors:

Lower Division Courses

- 288 (288). Family Health and Home Nursing.** (1:1:0) F.S. Jenny, Staff
Essential knowledge and attitudes about healthful family living. Skills in giving home nursing care to the sick or injured. Essentials of maternal health and child care.

For Majors in Nursing:

Lower Division Courses

- 201 (201). Fundamentals of Nursing.** (2:2:0) S. Prerequisites: completion of or concurrent registration in Chemistry 102, Zoology 261. Briick, Staff
Introduction to principles of nursing based on physiological, psychological, and sociological sciences and the application of these principles with emphasis on meeting physiological needs.
- 202 (202, 218). Introductory Medical-Surgical Nursing.** (5:5:0) F. Prerequisites: Nursing 201; Bacteriology 121; Food and Nutrition 115; and completion of

or concurrent registration in Physics 100 and H.D.F.R. 210. Briick, Staff
Beginning medical-surgical nursing including asepsis and drug administration, continuing with the approach used in 201.

- 211 (211). **Fundamentals of Nursing Laboratory.** (2:0:8) S. Prerequisite: concurrent registration in Nursing 201. Briick, Staff
Supervised experience in the identification of needs of selected patients and the development of nursing skills with emphasis on meeting comfort and activity needs.
- 212 (212, 218, 348). **Introductory Medical-Surgical Nursing Laboratory.** (5:0:20) F. Prerequisite: concurrent registration in Nursing 202. Briick, Staff
Supervised experience in applying techniques including beginning operating room skills.
- 223 (203, 220, 320, 340). **Intermediate Medical-Surgical Nursing.** (3:6:0) S. Eight-week block. Prerequisite: Nursing 202. Drury, Noall, Stevensen
Continuation of medical-surgical nursing organized around physiological and emotional needs; diet therapy and pharmacology included.
- 233 (213, 340, 348, 429). **Intermediate Medical-Surgical Nursing Laboratory.** (4:0:32) S. Eight-week block. Prerequisite: concurrent registration in Nursing 223. Drury, Noall, Stevensen
Guided experience in patient-centered nursing care arising from physiological needs; includes diet therapy experience.

Upper Division Courses

- 324 (304, 340, 352). **Advanced Medical-Surgical Nursing.** (3:6:0) F.Su. Eight-week block. Prerequisite: Nursing 223. Bethers, Drury, Noall, Potter, Stevensen, Wilson
Emphasis on surgical principles and the acutely ill child; further development of concepts of medical-surgical nursing.
- 325 (220, 320, 405, 429). **Advanced Medical-Surgical Nursing.** (5:5:0) F.S. Prerequisite: Nursing 223. Bethers, Stevensen
Emphasis on complex problems arising from physiological and psychological needs, particularly thoracic and neuro-surgical patients; the nurse's role in civil defense.
- 334 (314, 340, 362). **Advanced Medical-Surgical Nursing Laboratory.** (3:0:24) F.Su. Eight-week block. Prerequisite: concurrent registration in Nursing 324. Bethers, Drury, Noall, Stevensen, Wilson
Concurrent experience in hospitals and clinics.
- 335 (220, 320, 348, 415). **Advanced Medical-Surgical Nursing Laboratory.** (5:0:20) F.S. Prerequisite: concurrent registration in Nursing 325. Bethers, Stevensen
Experience concurrent with theory in the care of patients with complex nursing problems.
- 351 (351, 352). **Maternal and Child Health Nursing.** (4:4:0) F.S. Prerequisites: Nursing 202; H.D.F.R. 210. Alward, Kohler, Potter, Wilson
Complete nursing care of mothers throughout the maternity cycle including preparation for parenthood and family-centered nursing; care of newborn infants; care of children in health and selected illnesses from the standpoint of their total needs.
- 361 (361, 362). **Maternal and Child Health Nursing Laboratory.** (6:0:24) F.S. Prerequisite: concurrent registration in Nursing 351. Alward, Kohler, Potter, Wilson
Experience in care of mothers and children in the physician's offices, maternity and pediatric clinics, and maternity and pediatric hospital divisions.
- 380 (380, 490). **Trends in Nursing.** (2:2:0) F. Staff
Study in relationships, origin, and development of nursing to present patterns.

- 421 (421). Psychiatric Nursing and Mental Health.** (3:6:0) S.Su. Eight-week block. Prerequisites: Psychology 111, Nursing 202. Staff
Dynamics of human behavior and their relationship to prevention, diagnosis, and treatment of mental illness; implications of psychiatric theories for nursing.
- 431 (431). Psychiatric and Mental Health Nursing Laboratory.** (4:0:32) S.Su. Eight-week block. Prerequisite: concurrent registration in Nursing 421. Staff
Clinical experience in developing a nurse-patient relationship with acute and convalescent mentally ill patients; employing various means of communication toward meeting patient needs. Observation of patients in group therapy and participation in unit activities.
- 475 (475). Principles of Public Health Nursing.** (2:4:0) F.S. Eight-week block. Prerequisites: Nursing 351 and concurrent registration in Nursing 485. Allred, Jenny
Meanings and functions of public health nursing; application of principles in comprehensive nursing in the home or community setting.
- 477 (477). Public Health Sciences.** (2:4:0) F.S. Eight-week block. Allred, Jenny
Meaning and scope of public health, public health organization, and programs dealing with epidemiology, statistics, environmental control, maternal-child health, school health, chronic disease, and geriatrics.
- 485 (485). Public Health Nursing Laboratory.** (4:0:32) F.S. Eight-week block. Prerequisite: concurrent registration in Nursing 475. Allred, Jenny
Experience in public health nursing agency in giving comprehensive nursing care to families and in working with allied professional workers and community agencies.
- 488 (488). Comprehensive Nursing.** (6:0:24) S. Prerequisite: completion of all clinical nursing courses. Staff
An analytical approach to identify the nursing and health needs of selected patients, and to synthesize principles learned in nursing and related fields toward the goal of comprehensive care. Opportunities provided for development and initiation of nursing care plans on selected patients.
- 490 (470, 490). Seminar in Professional Nursing Problems.** (3:3:0) S. Prerequisite: fourth year standing in nursing. Staff
Opportunities and responsibilities inherent in the profession; emphasis on current problems and fields; management principles and their application to nursing team and head nursing activities.



Physical Education

Professors: Hart (chairman—men, 248 SFH), Holbrook (chairman—women, 320 WG), Hartvigsen, I. Heaton, E. R. Kimball.

Associate Professors: Nicholes, Watts.

Assistant Professors: Bangerter, Barney, F. W. Dixon, Geddes, A. Heaton, Robison, Soffe.

Instructors: Apostol, Bunker, Bunnell, Calderwood, Call, Chatwin, Crowton, Hafen, Hirst, Jacobson, Jenson, C. R. Kimball, Michaelis, Mitchell, Moe, Rollins, Shaw, Tuckett, Wallace, Witbeck.

Each freshman student registering in 1961 is required to complete one physical education course in the 100 series during each semester of his freshman and sophomore years. Transfer students must have the equivalent or take the courses before graduation. Exceptions: (1) Students who are majoring in and who complete the course in engineering science together with requirements for an air science commission are not subject to the physical education requirement. (2) Engineering science students who withdraw from the air science program after two years are exempt from one semester hour of physical education.

A variety of activities is available for selection. Two year's work in physical education activity will provide the student with an opportunity for organic development, neuro-muscular skill, social contact in game and team situations, and other carryover values.

Extra-curricular activities are promoted for student participation: games, sports, hikes, dances, and intramural athletics. The department urges all students to participate regularly in some form of physical activity during their four years here.

Men students using the towel service are required to make a 75-cent deposit by purchasing a towel check. This check is exchangeable for towel service during school hours and is redeemable at any time.

A thorough physical examination is required of each freshman student upon entering the University. Any student desiring exemption from physical education for medical reasons must obtain an excuse from the University physician. Written statements from a personal physician must be approved by the University physician.

Each student registered for physical education activity courses is required to provide himself with the official uniform which may be purchased at the Student Service Center. He is also required to provide himself with an approved combination padlock for use on a basket locker.

Major Requirements

Physical Education—Men:

Physical Education 180, 181, 182, 190, 191, 231, 232, 233, 234, 235, 290, 291, 330, 341, 344, 371, 372, 373, 374, 390, 391, 413, 446, 490, 491, and 2 to 3 hours of electives.

Physical Education—Women:

Physical Education 180, 181, 182, 183, 187, 188, 190, 191, 241, 242, 244, 245, 290, 291, 330, 341, 344, 375 or 376, 390, 391, 413, 446, 464, 490, 491, and 4 hours of electives.

Physical Education—Women (Dance Emphasis):

Physical Education 180; 181; 182; 183; 187; 188; 190; 191; two courses from 241, 242, 244, 245; four courses from 280, 281, 282, 283, 284, 285; 287; 288; 290; 291; 330; 341; 380; 383; 384; 387; 388; 390; 391; 446; 484; 485; 487; 488; 490; 491.

Dance Non-Teaching:

Physical Education 180; 181; 182; 183; 187; 188; four courses from 280, 281, 282, 283, 284, 285; 287; 288; 380; 383; 384; 387; 388; 484; 485; 487; 488.

Pre-Physical Therapy:

Physical Education 180; 181; 182; for men three hours from 231, 232, 233, 234, 235; 373; for women two courses from 241, 242, 244, 245; 570; for both men and women 330; 341; 344; 413; 446; 464. In addition, students will take the following science foundation courses: Zoology 105 or Botany 101; Zoology 264, Chemistry 101 and 102, or Chemistry 111, 112 and 113; Physics 201; Mathematics 101 and 111.

Preparation courses, some of them filling the General Education requirements for all above areas, are: Health 121, Botany 101, and Zoology 264.

Substitutions for any of the courses in the departments listed above will be allowed only upon approval of the department chairman.

Minor Requirements**Physical Education—Men:**

Two courses from Physical Education 180, 181, 182; three hours from 231, 232, 233, 234, 235; 330; 341*; four hours from 371, 372, 373, 374; and 446.

Physical Education—Women:

Two courses from Physical Education 180, 181, 182, 183; 187; 188; three courses from 241, 242, 243, 244; 330; 341*; and 375 or 376.

Dance Non-Teaching:

Physical Education 180; 181; 182; 183; 187; 188; 287; 288; 380; 383; 384; 387; 388; 484; 485; 487; 488.

The department reserves the right to recommend substitutes for any of the above required courses.

Physical Education Specialization Designed for Elementary Majors:

Students majoring in elementary education who desire to elect a teaching minor in physical education will take the following courses:

25-hour list—Men: Physical Education 180; 181; 182; three courses from 231, 232, 233, 234, 235; 330; 341*; 373; 375; 376; 446; 464; and Health 121.

16-hour list—Men: Physical Education 180; 181; 182; three courses from 231, 232, 233, 234, 235; 330; 341*; 373; 375; 376; and 446.

25-hour list—Women: Physical Education 180; 181; 182; 241; 242; 245; 330; 341*; 375; 376; 446; 464; Health 121.

16-hour list—Women: Physical Education 180; 181; 182; 241; 242; 330; 341*; 375; 376; 446.

*Note: Zoology 264 is a prerequisite for P.E. 341.

Lower Division Courses**Activity Courses**

All courses in the one hundred series count for general education credit in physical education.

101 (101, 102). Physical Education Activities—Men. (½:0:2-3) F.Su. Crowton
Games and a variety of sports activities.

102 (102, 103). Physical Education Activities—Men. (½:0:2-3) S.Su. Crowton
Sports activities.

104 (104). Recreational Sports. (½:0:2-3) F.S.Su. Calderwood
Individual, dual, and group games and sports. Activities providing op-

portunity for ready development of skill and strategy for recreational satisfaction.

- 110 (100). **Boxing, Beginning—Men.** ($\frac{1}{2}$:0:2-3) F.S. O. Dixon, Witbeck
- 111 (111). **Boxing, Intermediate—Men.** ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: Physical Education 110 or equivalent. Soffe
- 113 (113). **Wrestling, Beginning—Men.** ($\frac{1}{2}$:0:2-3) F.S. Bangerter, Rollins
- 114 (114). **Wrestling, Intermediate—Men.** ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: Physical Education 113 or equivalent. Bangerter, Soffe
- 115 (New). **Fencing.** ($\frac{1}{2}$:0:2-3) F.S.Su. Staff
- 121 (121). **Track and Field, Indoor—Men.** ($\frac{1}{2}$:0:2-3) F. Robison
- 122 (155). **Track and Field, Freshman—Men.** ($\frac{1}{2}$:0:2-3) S. Robison
- 123 (123). **Badminton.** ($\frac{1}{2}$:0:2-3) F.S.Su. Calderwood, Soffe
- 125 (125). **Handball—Men.** ($\frac{1}{2}$:0:2-3) F.S. Hafen
- 126 (126). **Archery.** ($\frac{1}{2}$:0:2-3) F.S.Su. Jacobson
Individual techniques with various types of tournaments and related archery activities. Students furnish their own arrows, bow strings, and finger tabs.
- 127 (Recreation 121). **Bowling.** ($\frac{1}{2}$:0:2-3) F.S. Fee. F. W. Dixon
- 128 (New). **Adaptive Games and Exercises.** ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: permission of instructor. Limited to individuals with handicaps who may benefit from individual or group activities. Barney
Individual instruction in exercise and games; modified to benefit persons counseled to take the course.
- 131 (131). **Golf, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.Su. Crowton
- 132 (132). **Golf, Intermediate.** ($\frac{1}{2}$:0:2-3) F.S.Su. Prerequisite: Physical Education 131 or equivalent. Crowton
- 133 (133). **Tennis, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.Su. F. W. Dixon, Hirst
- 134 (134). **Tennis, Intermediate.** ($\frac{1}{2}$:0:2-3) F.S.Su. Prerequisite: Physical Education 133 or equivalent. F. W. Dixon, Hirst
- 135 (135). **Skiing, First Year.** ($\frac{1}{2}$:0:5) S. Hirst, Jacobson, Jensen, Watters
First year skiing for participants of varying abilities. Sections formed on the basis of ability with instruction suited to varying skill levels in fundamentals of skiing. The student furnishes all his own ski equipment and pays ski tow fees. Fee. (Permission to withdraw with refund restricted.)
- 136 (136). **Skiing, Second Year.** ($\frac{1}{2}$:0:5) S. Hirst, Jacobson, Jensen, Watters
Second year skiing for participants of varying abilities. Classification for instruction based upon ability. The student furnishes all his own ski equipment and pays ski tow fees. Fee. (Permission to withdraw with refund restricted.)
- 137 (137). **Hiking.** ($\frac{1}{2}$:0:3-5) F.S.Su. Hafen, Holbrook
Hikes in the surrounding area graded according to length and difficulty include related observations and study. Fee. (Permission to withdraw with refund restricted.)
- 138 (138). **Outing Activities.** ($\frac{1}{2}$:0:3-5) F.S.Su. Michaelis
Selected seasonal activities which may include walking, nature observation and study, horseback riding, snowshoeing, coasting, bicycling, roller skating, canoeing, sleighing, ice skating, tracking and trailing, and outdoor cookery.

- 140 (140). Basketball, Beginning. ($\frac{1}{2}$:0:2-3) F.S. Crowton, Wallace
- 141 (141, 153). Basketball, Intermediate—Men. ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: Physical Education 140 or equivalent. Bunker
- 144 (144, 145). Volleyball. ($\frac{1}{2}$:0:2-3) F.S. Soffe, Wallace
- 148 (New). Soccer. ($\frac{1}{2}$:0:2-3) F.S. Wallace, Witbeck
- 149 (149). Field Sports—Women. ($\frac{1}{2}$:0:2-3) Wallace
- 150 (150). Hockey—Women. ($\frac{1}{2}$:0:2-3) F. Wallace
- 152 (152). Softball—Women. ($\frac{1}{2}$:0:2-3) F. Calderwood
- 154 (154). Football, Beginning. ($\frac{1}{2}$:0:2-3) F. Staff
Limited to those qualifying for freshman football squad.
- 155 (New). Football, Intermediate. ($\frac{1}{2}$:0:2-3) F. Staff
Limited to varsity football players.
- 156 (156). Baseball, Beginning. ($\frac{1}{2}$:0:2-3) S. Tuckett
Limited to those qualifying for freshman baseball squad.
- 157 (New). Baseball, Intermediate. ($\frac{1}{2}$:0:2-3) S. Tuckett
Limited to varsity baseball players.
- 160 (160). Swimming, Beginning. ($\frac{1}{2}$:0:2-3) S. Hirst, Wallace
Beginning swimming techniques to provide a foundation for skill, safety, and enjoyment of water activities. Fee. (Permission to withdraw with refund restricted.)
- 161 (161). Swimming, Intermediate. ($\frac{1}{2}$:0:2-3) S. Prerequisite: Physical Education 160 or equivalent. Wallace
Swimming skills including strokes, diving, and synchronizing. Fee. (Permission to withdraw with refund restricted.)
- 164 (164). Life Saving. ($\frac{1}{2}$:0:3) S. Hirst, Wallace
Fee.
- 165 (165). Water Safety Instruction. ($\frac{1}{2}$:0:3) S. Hirst, Wallace
Fee.
- 166 (166). Canoeing. ($\frac{1}{2}$:0:4) F.S.Su. Prerequisite: ability to pass swimming test. Hirst, Holbrook, Wallace
Instruction in canoeing techniques on the varied waterways of Utah County. American Red Cross basic canoeing and instructors cards issued to qualifying students. Fee. (Permission to withdraw with refund restricted.)
- 170 (170). Tumbling. ($\frac{1}{2}$:0:2-3) F.S.Su. Wallace
- 171 (171). Trampoline and Tumbling. ($\frac{1}{2}$:0:2-3) F.S. Moe, Wallace
- 173 (173). Trampoline and Gymnastics, Beginning. ($\frac{1}{2}$:0:2-3) F.S. Moe
Basic instruction in gymnastics and free exercises and trampoline; techniques in use of apparatus and equipment.
- 174 (174). Trampoline and Gymnastics, Intermediate—Men. ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: Physical Education 173 or equivalent. Moe
- 175 (New). Preventive and Remedial Exercise. ($\frac{1}{2}$:0:2-3) F.S.Su. Prerequisite: permission of instructor or referral by Health Center. Barney
A fundamental body mechanics, posture, and corrective exercise program.
- 176 (176). Activities for Fitness—Women. ($\frac{1}{2}$:0:2-3) F.S.Su. Wallace
- 177 (177). Principles and Methods of Body Mechanics. ($\frac{1}{2}$:0:2-3) F.S.Su. Staff
- 178 (178). Progressive Weight Training—Men. ($\frac{1}{2}$:0:2-3) F.S. Barney, Crowton

- 180 (180). **Social Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. Calderwood, A. Heaton
- 181 (181). **Folk Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. Jensen
- 182 (182). **Square Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. A. Heaton, Jensen
- 183 (183). **Tap Dance.** ($\frac{1}{2}$:0:2-3) Arr. Bunnell, Jensen
Fundamental and basic rhythms progressing into creative and interpretive tap dancing.
- 187 (187, 188). **Modern Dance Technique.** ($\frac{1}{2}$:0:2-3) F.S. Bunnell, Chatwin
Progressive fundamental techniques of movement with emphasis upon an understanding of rhythm, space, tension, relaxation, and basic locomotion activities.
- 188 (188, 189). **Modern Dance Technique.** ($\frac{1}{2}$:0:2-3) S. Prerequisite: Physical Education 187. Bunnell, Chatwin
Progressive fundamental techniques of movement with emphasis upon an understanding of the qualities and the structural analysis of movement.
- 190, 191 (New). **Physical Education College Seminar—Freshman.** (0:1:0) F. S. Bangerter, Hartvigsen, Holbrook, Staff

Professional Courses

- 207 (207). **Sports Officiating—Women.** (2:1:3) F. Wallace
Rules, techniques, problems, and procedures in officiating softball, volleyball, and basketball.
- 231 (221, 222, 224). **Sports Fundamentals for Majors—Men.** (1:0:3) F.S. Witbeck
Flag and tag football, soccer, boxing, and wrestling.
- 232 (221, 225). **Sports Fundamentals for Majors—Men.** (1:0:3) F.S. Bangerter, Moe
Gymnastics, tumbling, and progressive weight training.
- 233 (223, 224, 227). **Sports Fundamentals for Majors—Men.** (1:0:3) F.S. Crowton, F. W. Dixon
Tennis, golf, handball, squashball, and bowling.
- 234 (223, 226). **Sports Fundamentals for Majors—Men.** (1:0:3) F.S. Soffe
Badminton, volleyball, games, and relays.
- 235 (228). **Sports Fundamentals for Majors—Men.** (1:0:3) S. Staff
Swimming, water safety, and life saving.
- 241 (241, 242). **Skills and Teaching Techniques—Women.** (2:0:4) F. Wallace
Soccer, speedball, volleyball, trampoline, and marching.
- 242 (242, 243). **Skills and Teaching Techniques—Women.** (2:0:4) S. Wallace
Tumbling, body mechanics, outdoor games, track and field, and softball.
- 244 (244, 245). **Skills and Teaching Techniques.** (2:0:4) F. Hirst
Hockey, badminton, basketball, and activities calling for coordination, balance, flexibility, agility, and timing.
- 245 (245, 246). **Skills and Teaching Techniques.** (2:0:4) S. Hirst
Archery, golf, bowling, rope jumping, and recreational sports.
- 250 (250). **Methods for Ski Instruction.** (1:0:4) F. Hirst
Instruction course in skiing for those who wish to qualify as student instructors in the ski program.
- 280 (280). **Techniques of Teaching Social Dance.** (1:0:2-3) F.S.Su. Prerequisite: Physical Education 180. A. Heaton

- 290, 291 (New). Physical Education College Seminar—Sophomores.** (0:1:0)
F.S. Bangerter, Hartvigsen, Holbrook, Staff
- 281 (281). Techniques of Teaching and Calling Square Dance.** (1:1:3) F. Pre-
requisite: a course of thorough performance and knowledge in square dance.
Jensen
Analysis of dance forms; their presentation for ready learning with study
and laboratory experience in square dance teaching and calling.
- 282 (282). Square Dance, Advanced.** (1:0:2-3) F.S. Jensen
- 283 (Recreation 283). Social Dance, Advanced.** (1:0:2-3) F.S. A. Heaton
- 284 (New). Folk Dance, Advanced.** (1:0:2-3) F.S. Jensen
- 285 (Recreation 181). South American Dance.** (1:0:2-3) F.S. A. Heaton
- 287 (287, 288). Dance Composition.** (1:0:3) F. Prerequisites: Physical Educa-
tion 187, 188. Chatwin
Compositional consideration with emphasis upon the use of the elements
of space and fundamental locomotion movement.
- 288 (288, 289). Dance Composition.** (1:0:3) S. Prerequisite: Physical Education
287. Chatwin
Compositional consideration with emphasis upon the use of qualities of
movement, rhythm, and form.

Upper Division Courses

Professional Courses

- 330 (330). Principles of Physical Education.** (3:3:0) F.S.Su. Holbrook
The principles of physical education and the relationship of physical edu-
cation to total education.
- 341 (341). General Kinesiology.** (3:3:0) F.S. Prerequisite: Zoology 264 or
equivalent. Barney, Call
Anatomical and mechanical analysis of motion in relation to human per-
formance.
- 344 (344). Physiology of Activity.** (3:3:0) F.S. Prerequisite: Zoology 264 or
equivalent. Barney, Call
Physiological effects of muscular exercise and physical conditioning. Sig-
nificance of these effects for health and athletic performance together with
a consideration of nutrition.
- 371 (371). Football Fundamentals and Coaching.** (2:3 for 8 weeks:2 for 8
weeks) F.S. Apostol
Theory and fundamentals of the game; methods of working out plays;
systems of offense and defense; conditioning drills.
- 372 (372). Basketball Fundamentals and Coaching.** (2:3 for 8 weeks:2 for 8
weeks) F.S. Watts
Theory and fundamentals of offensive and defensive systems, and schedule
making.
- 373 (373). Track and Field Fundamentals and Coaching.** (2:3 for 8 weeks:2
for 8 weeks) F.S.Su. Robison
Theory, fundamentals, and techniques of track and field athletics with
some emphasis upon management of meets.
- 374 (374). Baseball Fundamentals and Coaching.** (2:3 for 8 weeks:2 for 8
weeks) F.S. Tuckett
Theory, fundamentals, problems, and techniques of baseball with some
consideration of team tactics, rules, and conditioning.

- 375 (375). **Physical Education for Teachers of Primary Grades.** (2:0:4) F.S.Su. Jacobson
Analysis of the fundamentals, the development of skills, and the application of methods in the teaching of games, rhythms, and recreation activities for grades 1, 2, and 3.
- 376 (376). **Physical Education for Teachers of Intermediate Grades.** (2:0:4) F. S.Su. Hirst
Analysis of fundamentals and development of skills for teaching in games, rhythms, and recreation activities for grades 4, 5, and 6.
- 377 (377). **Secondary Teaching Procedures.** (3:3:1) F.S. Prerequisite: Instruction 301. Bangerter, Jacobson
See Instruction 377 for description.
- 380 (380). **Dance Production.** (2:3:2) S. Chatwin
Information on costuming, make-up, stage sets and scenery, lighting, and accompaniment for dance concerts.
- 383 (383). **Rhythmic Analysis and Movement.** (2:5:0) S. Bunnell
The development of sensitivity and response through analysis of rhythm and its application to movement.
- 384 (283, 284, 285, 381, 382). **Accompaniment for Dance.** (2:2:3) F. Prerequisite: Physical Education 383. Bunnell
Accompaniment based on rhythm, form, and analysis which is supportive of dance technique, interpretation, and expression.
- 387 (387, 388). **Advanced Modern Dance.** (1:0:5) F. Prerequisites: Physical Education 187, 188 or equivalent. Chatwin
Progressive techniques of movement for students with a strong background in modern dance.
- 388 (388, 389). **Advanced Modern Dance.** (1:0:5) S. Prerequisites: Physical Education 187, 188, 387 or equivalent. Chatwin
- 390, 391 (New). **Physical Education College Seminar—Juniors.** (0:1:0) F.S. Bangerter, Hartvigsen, Holbrook, Staff
- 406 (206). **Sports Officiating—Men.** (2:2:0) F. Bunker, Soffe
Rules, techniques, problems, and procedures in officiating football, basketball, and other team and individual sports.
- 413 (413). **Organization and Administration of Physical Education.** (2:2:0) F. S. Prerequisite: Physical Education 330. Hartvigsen
Administrative problems arising out of organizing and conducting health, physical education, and recreation programs in schools and communities.
- 446 (446). **Adaptation of Activities in Corrective Procedure.** (2:1:3) F.S. Prerequisites: Zoology 264 or equivalent; Physical Education 341. Barney, Call
The selection and scope of corrective activities, forces and mechanics in body balance, variations of posture, methods of stimulating interest in posture, and the psychology of individual gymnastics.
- 464 (464). **Introduction to Statistics and Tests in Physical Education.** (3:3:1) F.S. Hart
Background course in physical achievement tests. History of the development, together with analysis of outstanding tests in physical education and elementary statistical procedures used in analyzing tests.
- 479 (478, 479). **Secondary Student Teaching.** (8:1:15) F.S. Bangerter, Hirst, Holbrook, Soffe
For course description and fees see Instruction 479.
- 484 (484). **Philosophy and Principles of Dance.** (2:3:0) S. Chatwin
Theories and philosophies of contemporary dance and dancers and the significance of these ideas in view of their effect upon modern educational and cultural uses of dance.

- 485 (485). **History of Dance.** (2:3:2) F. Prerequisites: Physical Education 187, 188, 387, 388. Chatwin
Beliefs in and practices of various forms of dance from early to modern times.
- 487 (487, 488). **Concert Dance.** (1:0:3-4) Bunnell, Chatwin
Performance techniques and composition for modern dance.
- 488 (488, 489). **Concert Dance.** (1:0:3-4) S. Bunnell, Chatwin
- 490, 491 (New). **Physical Education College Seminar—Seniors.** (0:1:0) F.S. Bangerter, Hartvigsen, Holbrook, Staff

Advanced Undergraduate or Graduate Courses

- 511 (511). **Administration of High School Athletics.** (2:2:0) F. E. R. Kimball
Education outcomes of high school athletics, their relationship to the intramural program, the physical education program, the school, and the community as a whole.
- 514 (314, 604). **Organization and Administration of Intramural Sports.** (2:2:0) F.S. Home Study also. Soffe
History, present status, and objectives of the intramural movement procedures concerning organization, administration, and supervision of the intramural program.
- 542 (542). **Physical Inspection.** (1:1:0) S. Staff
Ways of recognizing abnormalities of body function by inspection and test procedures.
- 543 (543). **Problems in Athletic Conditioning and Injuries.** (2:1:2) F.Su. Prerequisites: Physical Education 341, 446. Call
- 570 (570). **Teaching Progression in Individual Sports.** (2:4:0) S. Prerequisite: skills classes or equivalent. Jacobson, Soffe
Materials, methods, and teaching progression in individual sports such as archery, badminton, bowling, golf, tennis.
- 571 (571). **Teaching Progression in Team Sports—Men.** (2:1:2) F. Soffe
Materials, methods, and teaching progression in team sports such as basketball, football, soccer, softball, speedball, volleyball, and wrestling.
- 572 (572). **Teaching Progression in Team Sports.** (2:2:2) F.S. Hirst
Materials, methods, and teaching progression in team sports such as basketball, field hockey, soccer, softball, speedball, and volleyball.
- 574 (674). **Teaching Techniques in Gymnastics.** (2:1:2) F. Bangerter
- 575 (675). **Materials and Methods for Secondary Teachers—Women.** (2:1:2) F. Hirst
- 588 (584, 586, 587). **Workshop in Modern Dance.** (2:2:6) Su. Prerequisite: competency in modern dance. Bunnell, Chatwin, Holbrook
Advanced techniques, composition, improvisation, and accompaniment.

Graduate Courses

- 600 (601, 676). **Curriculum Construction and Supervision in Physical Education.** (3:3:0) S. Hart
Curriculum construction for elementary, secondary, and college physical education with techniques of supervision in improving teacher-pupil learning situations.
- 603 (603). **Planning Facilities.** (2:2:0) S. E. R. Kimball
Basic planning of facilities for school and community physical education and recreation programs.

- 621 (621). History and Philosophy. (3:3:0) F.** Holbrook
Beliefs and practices from early to modern times as related to physical education. Significance and implications of these in view of their effect upon modern educational thinking and cultural uses.
- 641 (641). Principles and Practices of Physical Reconditioning. (2:2:0) F.** Pre-
requisite: Zoology 264. Barney
- 660 (660). Measurement and Evaluation of Physical and Health Education. (3:3:0) S.** Prerequisite: Physical Education 464 or equivalent. Hart
- 673 (673). Physical Education in the Elementary School. (3:3:0) Su.** Holbrook
For the teacher, the principal, and the supervisor. Emphasis upon objectives, interrelationships with the curriculum, and the content material used in accomplishing education results.
- 691 (602, 605). Seminar in Administration and Public Relations. (3:3:0) S.** Hart, Hartvigsen
- 692 (692). Research Methods in Physical Education. (3:3:0) F.** Hart
- 694 (694). Seminar in Readings. (2:2:0) F.S.** Staff
- 696 (696). Seminar in Problems. (1:1:0) S.** Staff
- 698 (698). Field Project, Master's Degree. (1-4:0:Arr.) F.S.Su.** Staff
- 699 (699). Thesis, Master's Degree. (1-4:0:Arr.) F.S.Su.** Staff



Physical Science

Professor: Hill.

Associate Professor: Compton.

Instructor: Gee (in charge, 228 ESC).

(An interdepartmental area only)

Lower Division Courses

101, 102 (101, 102, 103). Concepts of Physical Science. (3:3:0 ea.) 101—F; Hill
102—S (G-PS)

This is the unified course in physical science recommended as the most satisfactory way to complete the general requirements in this area for non-science majors. Fundamental concepts of physics, astronomy, chemistry, and geology are covered. Emphasis is given to a penetrating application of the methods of science to a relatively few basic topics rather than to a superficial survey of the subject matter areas.

Both semesters must be taken in order to receive credit which will meet the requirements for general education in the physical sciences. The semesters must be taken in proper sequence but need not be taken the same year.

PHYSICAL SCIENCE EDUCATION

Upper Division Courses

377 (377). Secondary Teaching Procedures. (3:3:1) F.S. Prerequisite: Instruction 301. Staff

For course description and fees, see Instruction 377.

479 (479). Secondary Student Teaching. (5-8:1:25-40) F.S. Prerequisite: Physical Science 377 or equivalent. Compton, Wickes

For course description and fees, see Instruction 479.

These courses also count in physical science education:

Instruction 493, 494 (493, 494). Independent Reading. (1-2:0:Arr.)

Instruction 670 (670). Teaching Mathematics and Science in Secondary Schools. (2:2:0)



Physics

Professors: Eastmond (chairman, 288 ESC), Fletcher, Gardner, W. Hales, A. Hill, Marshall.

Associate Professors: R. Hales, McNamara*.

Assistant Professors: Barnett, Decker, Dixon, Geertsen, M. Hill, McDonald, Miller, Nelson, Vanfleet.

The curriculum of the Department of Physics is designed to provide: (1) training for students majoring in physics; (2) a basic and fundamental background for other physical sciences and engineering; (3) the broadening program required by the biological sciences, pre-medical, pre-dental, and nursing programs; (4) training in the subject matter of physics for prospective teachers of the physical sciences; and (5) information required for the liberal arts and general education.

Students who expect to major in physics, other physical sciences, or engineering should begin their study of physics by electing Physics 211 and 212. Students who expect to study medicine, dentistry, or to major in the fields of biological sciences may elect Physics 201, 202, and 303.

Non-science students may elect with profit Physics 100, 127, 128, 137, and 177 which may be taken without prerequisites and which are organized with the view of giving the student an appreciation of his physical environment.

Students expecting to use physics as a teaching major or minor or as a part of a composite teaching major should refer to the part of this catalog referring to subject matter preparation of secondary school teachers.

Requirements for Physics Major

For special requirements of the College of Physical and Engineering Sciences see that section of this catalog. Reference is made to the Mathematics Department section with respect to mathematics preparation and placement tests. Students majoring in physics have the following courses prescribed: Physics 211, 212, 213, 214, 315, 316, 321, 322, and fourteen or more hours of additional courses selected from the 300, 400, or 500 series in the department; and Math 112, 213, 214, 315, 316 or equivalent. Successful completion of these courses implies, for physics majors, attaining a grade of "C" or better.

Suggested Courses for Physics Major

In order to satisfy the General Education requirements and at the same time obtain sufficient work in undergraduate physics to make the pursuit of graduate work profitable, the physics major must plan his program carefully.

The following program is recommended for those students whose training in mathematics includes the prerequisites for the courses as outlined. Each student should examine his own mathematical background and the results of the mathematical placement test taken at the time of registration and then make any necessary adjustments in this basic program with the advice of his counselor.

Freshman Year			Sophomore Year		
	F	S		F	S
Math 111, 112	5	5	Math 213, 214	5	5
Chemistry 111, 112	4	3	Physics 211, 213	4	4
Religion	2	2	Physics 212, 214	1	1
English	3	3	Religion	2	2
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$	Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Health 130		2	Language	5	5
Electives	3	3			
Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$

Junior Year			Senior Year		
	F	S		F	S
Math 315, 316	3	3	Math 435	3	
Physics 315, 341	3	4	Physics 342, 441	4	4
Physics 316	2		Physics 431, 471	3	4
Physics 321, 322	4	4	Physics 551, 552		
Religion	2	2	(or 437, 381, 591)	3	3
Electives	4	5	Religion	2	2
			Electives	3	5
Total Hours	18	18	Total Hours	18	18

Note: Of the general requirements, religion, English composition, physical education, health, and 3 hours of humanities and fine arts (satisfied by 10 hours language) are specifically listed in this program and, of course, physical science is met automatically. This leaves 19 hours in general requirements to include in the 23 hours available for "electives."

This program includes physics credit in excess of the minimum requirements stated above but is recommended to provide satisfactory preparation for pursuit of work toward graduate degrees in physics.

Lower Division Courses

- 100 (101, 102, 103, 104). Essentials of Physics.** (3:3:0) F.S. Home Study also. Staff
(G-PS)
An introductory course designed for students not majoring in the physical sciences. Basic concepts are treated from a descriptive rather than mathematical point of view.
- 105, 106 (105, 106, 107). Technical Physics.** (3:2:3 ea.) F.S. (G-PS) Pre-requisite: completion of or concurrent registration in Math 111 or 121. Barnett
Introductory course in applied physics with special emphasis placed on industrial and technical applications. Limited to study of mechanics, heat, light, and sound.
- 127 (127). Descriptive Astronomy—"The Solar System."** (3:3:0) F.S.Su. Home Study also. (G-PS) Staff
A non-mathematical presentation of our knowledge of the solar system. Frequent use is made of the observatory and planetarium.
- 128 (128). Descriptive Astronomy—"The Stellar System."** (3:3:0) F.S. (G-PS) Staff
A non-mathematical presentation of our knowledge of the content and history of the universe. Physics 127 is not a prerequisite.
- 137 (137). Weather and Climate.** (3:3:0) F.S.Su. Home Study also. (G-PS) W. Hales
The earth's atmosphere and problems associated with climate and weather forecasting.
- 177 (177). Physics of Light and Photography.** (3:2:3) F.S.Su. Home Study also (G-PS) W. Hales
Fundamentals of light phenomena with applications to photography.
- 201, 202 (111, 112, 113). General College Physics.** (4:3:3) F.S. (G-PS) Pre-requisite: Math 111 or equivalent. Miller
A general course with laboratory for students in pre-medical, pre-dental, and biological science programs.
- 211, 213 (211, 212, 213). General Physics: Classical.** (4:4:0 ea.) F.S.Su. (G-PS) Prerequisites: Math 112; completion of or concurrent registration in Math 213 (or 214); and for physics, chemistry, and engineering majors, completion of or concurrent registration in Physics 212 (or 214). Staff

Mechanics, heat, sound, light, electricity, and magnetism, for physical science and engineering majors. This course is a prerequisite for all specialized courses in physics.

- 212, 214 (211, 212, 213). **General Physics Laboratory.** (1:0:3 ea.) F.S.Su. (G-PS) Prerequisite: completion of or concurrent registration in Physics 211 (or 213). Staff

Experimental work to parallel Physics 211 (or 213).

Upper Division Courses

Passing grades in Math 213 and 214, Physics 211, 212, 213 and 214 or their equivalents are prerequisite to all courses above 310.

- 300 (301). **History and Philosophy of Physics.** (2:2:0) S.Su. Prerequisites: Physics 211, 213, or 201, 202 with consent of instructor. Nielson
Historical background of physical science, emphasizing the development and significance of important concepts, methods, and theories.

- 303 (351, 352). **Survey of Atomic and Nuclear Physics.** (3:3:0) S.Su. Prerequisites: Physics 201, 202 (or 211, 213). Staff
Primarily for non-physical science majors. Elementary particle and radiation physics including atomic structure, spectra, X-rays, nuclear structure, nuclear processes and applications.

- 315 (351, 352, 353). **General Physics: Atomic and Nuclear.** (3:3:0) F.S. Prerequisites: Physics 211, 213. Staff
Fundamental particles, atomic and molecular structure, Bohr theory, spectra, X-rays, quantum effects, special relativity, radioactivity, nuclear forces and reactions.

- 316 (351, 352, 353). **Atomic and Nuclear Physics Laboratory.** (2:1:4) F. Prerequisite: completion of or concurrent registration in Physics 315. Staff
Required of all physics majors. Experimental work in particle and radiation physics.

- 321, 322 (321, 322, 323). **Mechanics.** (4:4:0 ea.) F.S. Prerequisites: Physics 211, 213. Vanfleet
Methods of classical mechanics applied to equilibrium, particle motion, central force, small oscillations, conservation principles, and rigid body dynamics, with an introduction to Lagrange's equations.

- 341, 342 (341, 342, 343). **Electricity and Magnetism.** (4:3:3 ea.) F.S. Prerequisites: Physics 211, 213; Math 315 or consent of instructor. Marshall
Electrostatics, D.C. and A.C. circuit theory, capacitors and inductors, dielectrics, magnetism, electromagnetism, and introduction to Maxwell's equations.

- 381 (New). **Introductory Solid State Physics.** (3:3:0) F. Prerequisites: Physics 211, 213, 315. Barnett
The crystalline state, lattice vibrations and specific heats, dislocation theory, dielectrics, free electron theory, band theory, conductivity, semiconductors, magnetism.

- 431 (331, 332, 333). **Thermodynamics and Kinetic Theory.** (3:3:0) F. Prerequisites: Physics 211, 213. M. Hill
Classical thermodynamics with applications, introduction to kinetic theory, and classical and quantum statistical mechanics.

- 437 (337, 338, 339). **Meteorology.** (3:3:2) S. Prerequisite: Physics 431. W. Hales
Physical influences on weather and climate with emphasis on thermodynamics and hydrodynamics of the atmosphere. Weather analysis and forecasting by means of synoptic charts.

- 441 (441, 442, 443). **Electronics for Physicists.** (4:3:3) S. Prerequisite: Physics 342. Dixon
Fundamental concepts of electronics and basic circuitry with emphasis on the tools needed for specialized research in a variety of fields of physics.

- 471 (371, 372, 373). Optics and Electromagnetic Theory.** (4:3:3) S. Prerequisites: Physics 211, 213; Math 315 or consent of instructor. Barnett
Propagation, reflection, refraction, interference, and diffraction of electromagnetic waves.

- 497 (494). Introduction to Research.** (1-3:0:2-6) Arr. Staff

Advanced Undergraduate or Graduate Courses

- 511 (511, 512, 513). Introduction to Theoretical Physics.** (3:3:0) Su. Prerequisites: Math 315, 316. Staff

Introduction to the basic principles of physics with emphasis on their mathematical formulation. Applications principally in mechanics and electrodynamics.

- 513 (New). Special Topics in Contemporary Physics.** (1-3:1-3:0) Arr. Prerequisite: consent of instructor. Staff

Various contemporary topics in physics are treated.

- 527, 528 (527, 528, 529). Introduction to Astrophysics.** (3:3:0 ea.) F.S. Offered 1961-62 and alternate years. McNamara

The physics of stellar atmospheres.

- 551 (551, 552). Elements of Quantum Theory.** (3:3:0) F. Prerequisites: Physics 315; Math 316. Staff

Basic course in modern theory of radiation and particle physics including elementary treatments of theory of relativity; quantum mechanics with spectroscopic applications; quantum statistics; solids.

- 552 (552, 553). The Atomic Nucleus.** (3:3:0) S. Prerequisite: Physics 551. Staff

Basic course in nuclear physics including description of nuclear properties; scattering theory; nuclear reactions; elementary theory of the nucleus.

- 561, 562 (561, 562, 563). Fundamentals of Acoustics.** (3:3:0 ea.) F.S. Offered 1962-63 and alternate years. Staff

Vibrating systems, transmission phenomena, theory of acoustical radiators, and applications of acoustics.

- 563, 564 (564, 565, 566). Acoustical Measurements.** (2:2:0) F.S. Offered 1962-63 and alternate years. Prerequisites: completion of or concurrent registration in Physics 561, 562. Staff

Selected experiments in acoustics.

- 591 (394, 696, 697, 698). Techniques in Experimental Physics.** (3:2:3) S. Staff

Modern methods in experimental physics with experience in basic shop and laboratory techniques applicable in research.

Graduate Courses

- 621 (621, 622). Dynamics.** (3:3:0) F. Prerequisite: Physics 322. McDonald

- 623 (New). Mechanics of Deformable Bodies.** (3:3:0) S. Offered 1961-62 and alternate years. Prerequisite: Physics 621. McDonald

- 625 (623). Theory of Relativity.** (3:3:0) S. Offered 1962-63 and alternate years. Prerequisite: Physics 621. McDonald

- 627, 628 (627, 628, 629). Advanced Topics in Astrophysics.** (3:3:0 ea.) F.S. Offered 1962-63 and alternate years. Prerequisite: consent of instructor. McNamara

- 631 (631, 632). Advanced Thermodynamics and Kinetic Theory.** (3:3:0) F. Offered 1961-62 and alternate years. Staff

- 632 (633). Statistical Mechanics.** (3:3:0) S. Offered 1961-62 and alternate years. Staff

- 641, 642 (641, 642, 643). **Mathematical Theory of Electricity and Magnetism.** (3:3:0 ea.) F.S. Prerequisite: Physics 342. Nelson
- 651, 652 (657, 658, 659). **Quantum Mechanics.** (3:3:0 ea.) F.S. Offered 1962-63 and alternate years. Prerequisites: Physics 551, 621; Math 618. Gardner
- 655, 656 (651, 652, 653). **Nuclear Physics.** (3:3:0 ea.) F.S. Offered 1961-62 and alternate years. Prerequisite: Physics 552. Staff
- 671 (671, 672). **Atomic Spectroscopy.** (3:2:3) F. Offered 1961-62 and alternate years. Prerequisite: Physics 551 or consent of instructor. Eastmond
- 672 (673, 771). **Molecular Spectroscopy.** (3:2:3) S. Offered 1961-62 and alternate years. Prerequisite: Physics 671. Eastmond
- 681, 682 (681, 682, 683). **Modern Theory of the Solid State.** (3:3:0 ea.) F.S. Offered 1962-63 and alternate years. Prerequisites: Physics 431, 551. Decker
- 691, 692 (691, 692, 693). **Seminar.** (1:1:0) F.S. Staff
- 697 (New). **Research for Master's Degree.** (Arr.) Arr. Staff
- 699 (699). **Thesis for Master's Degree.** (Arr.) Arr. Staff
- 711, 712, 713 (741, 755). **Advanced Topics in Physics.** (1-3:1-3:0) Arr. Prerequisite: consent of instructor. Staff
Course content varies. Special topics in theoretical and experimental physics are treated.
- 751 (757, 758, 759). **Advanced Quantum Theory.** (3:3:0) F. Offered 1961-62 and alternate years. Prerequisite: Physics 652. Staff
- 791, 792 (791, 792, 793). **Seminar.** (1:1:0) F.S. Staff
- 797 (798). **Research for Ph.D. Degree.** (Arr.) Arr. Staff
- 799 (799). **Dissertation for Ph.D. Degree.** (Arr.) Arr. Staff



Political Science

Professors: Jensen (emeritus), Grow.

Associate Professors: Cannon (chairman, 360 McKay), Jordan, Mabey, Reeder.

Assistant Professor: Melville.

Requirements for a Major in Political Science

A major in political science requires the satisfactory completion of at least 30 hours of work in this field, distributed as follows:

Required courses: Political Science 110, 111, 112 or 115, and 300; or Political Science 210, 212, and 300.

Elective courses: At least one course from each of the following six main areas plus additional courses to a minimum total of 30 hours:

1. Political theory—301, 303, 590, 601, 605
2. Politics—310, 320, 322, 610
3. Public administration—330, 501, 502, 504, 510, 532, 535, 630
4. Comparative government—350, 352, 355, 557, 560, 650, 651
5. International law and relations—370, 565, 571, 572, 575, 580, 665, 675
6. Public law—396, 397, 575, 590, 591, 593, 595, 690, 696

It is recommended that the major in political science include History 120 and 121 in his basic program.

Political science lower division courses should be completed by the end of the sophomore year. Courses and sequences other than those required should be selected in consultation with the adviser and the department chairman who will also advise the student in the selection of his minor field.

A comprehensive examination may be given to all majors in the second semester of the senior year.

Political science is designated as a "composite major" in social science. (See College of Education.)

American History and Government Requirement

In satisfying this requirement for graduation, the student majoring in political science is advised to take both History 120 and 121. If this cannot be arranged, he should take at least one of the following combinations:

- Political Science 110 and History 121.
- Political Science 110 and History 274.

History 170 is **not** recommended for majors in political science as the means of fulfilling this graduation requirement.

Lower Division Courses

- 105 (105). Current Affairs.** (1:1:0) F.S. (G-SS) Staff
 Survey of current events with special attention to historical background and present implication in economics, sociology, politics, and international relations.
- 110 (110). American Government.** (3:3:0) F.S. Home Study also. (G-SS) Staff
 Origin and growth of federal constitution; constitutional rights of citizens; study of executive, legislative, and judicial departments.

- 111 (111). **State and Local Governments.** (3:3:0) F.S. (G-SS) Staff
Relation of state to the national government; functions and powers of states; types of municipal government and their growth and operation.
- 112 (112). **Foreign Governments.** (3:3:0) F. Home Study also. (G-SS) Staff
General study of selected European, Asiatic, and Latin-American governments; their development, organization, administration, and politics.
- 115 (115). **Introduction to International Relations.** (3:3:0) S. Home Study also. (G-SS) Staff
Survey of basic forces, practices, and institutions with special attention to foreign policies of major powers and problem areas in international politics.
- 210 (New). **American System of Government.** (5:5:0) F.S. (G-SS) Limited to participants in the Honors Program. Staff
The American system of government including operations of federal, state, and local governmental structures.
- 212 (New). **Comparative Governments and International Relations.** (5:5:0) F. S. (G-SS) Limited to participants in the Honors Program. Staff
Selected foreign governments and introductions to international relations.

Upper Division Courses

- 300 (300, 490). **Research and Writing in Political Science.** (3:2:1) F.S. Staff
Sources, materials, and methods of research and writing in political science. Required of all majors in political science. Should be taken sophomore or junior year.
- 301 (301). **The Development of Political Thought.** (3:3:0) F. Staff
History of political thought. Socrates, Plato, Aristotle, Epicureans, Cynics, Stoics, Cicero. Early and medieval Christian thinkers: Machiavelli, Hobbes, and others, to Locke.
- 303 (303). **Modern Western Political Thought.** (3:3:0) S. Staff
Modern and contemporary political thought, including development and criticism of liberal, socialist, communist, fascist, and conservative doctrines.
- 306 (306). **American Political Thought.** (2:2:0) S. Jensen
American political ideas from the colonial period to the present, with an analysis of their influence upon development of American history and government.
- 310 (310, 515). **Political Parties, Pressure Groups, and Public Opinion in the U.S.** (3:3:0) F. Grow
Organization and methods of action of political parties and pressure groups. The formulation and determination of public opinion.
- 320 (320). **American Legislative System.** (2:2:0) S. Grow
Structure and organization of congressional, state, and city legislative bodies; nature of business transacted; influences acting upon such bodies; parliamentary procedure.
- 322 (322). **Contemporary Problems.** (2:2:0) F. Staff
Selected topics which involve the formulation of American public policy in the areas of economics, sociology, politics, and international relations.
- 330 (330). **Introduction to Public Administration.** (3:3:0) F.S. Grow
Organization and operation of government. Relationship of administration to other branches of government; types of control over administration; central and local government.
- 350 (350). **Government of the Soviet Union and Eastern Europe.** (3:3:0) F. Staff
Governments of the U.S.S.R. and other eastern European countries, their political institutions and philosophies.

- 352 (362). Government and Politics of East Asia.** (3:3:0) S. Hyer
Analysis of traditional Asian governmental institutions in their historical context with emphasis on the structure and dynamics of modern Far Eastern politics.
- 355 (355, 356). Government and Politics of United Kingdom and the Commonwealth.** (3:3:0) S. Staff
Development of the British Constitution; examination of growth of cabinet government; the Crown, Parliament, Civil Service; local and government administration; English judicial system, the commonwealth.
- 370 (370). International Relations.** (3:3:0) F. Staff
International relations in the contemporary world. Development of the modern state system, problems of international relations, and emergency of international law and government.
- 396 (396). Constitutional Law of the U.S. I.** (3:3:0) F. Prerequisite: Political Science 110. Reeder
American federal system.
- 397 (397). Constitutional Law of the U.S. II.** (3:3:0) S. Reeder
Fundamental rights and immunities.
- 498 (498). Directed Readings in Political Science.** (1-2:0:1-2) F.S. Staff

This course also counts in political science:

Geography 441 (584). Political Geography. (3:3:0)

Advanced Undergraduate or Graduate Courses

- 501 (New). City Planning.** (3:3:0) S. Staff
The basic problem and techniques involved in city planning.
- 502 (New). Public Works and Safety Administration.** (4:4:0) F. Staff
The basic factors underlying the efficient operation of police and fire and public works departments. Sociological and psychological problems involved; organization patterns; public relations; budget; etc.
- 504 (New). Budget and Fiscal Administration.** (3:3:0) F. Staff
The principals involved in governmental budget and fiscal administration. Emphasis will be given at national, state, and municipal levels.
- 510 (New). International Project Administration.** (3:3:0) Offered alternate years. Staff
The administration of United States programs abroad. Problems faced, living conditions, techniques of administration, approaches to education, etc.
- 532 (532). Personnel Administration.** (2:2:0) F. Staff
Treatment of processes, procedures, controls, and problems of personnel and fiscal administration in executive branches of federal, state, and local governments.
- 535 (335, 635). Municipal Government and Administration.** (3:3:0) S. Grow
Growth, development, and organization of cities; relationship of cities to other governments; problems and activities of modern cities.
- 557 (557). Government and History of Canada.** (3:3:0) S. Staff
Growth and development of Canada and the operation of her government.
- 560 (560). Governments of Latin-America.** (2:2:0) S. Staff
Growth and political development of countries in the Latin-American area with special reference to Argentina, Brazil, and Mexico.
- 565 (565). International Organization.** (3:3:0) F. Staff
History and structure of international organizations, with particular emphasis on the United Nations organization and its specialized agencies.

- 571 (571). **Development of American Foreign Policy.** (3:3:0) S. Staff
Role of the United States in international affairs from colonial times to the present.
- 572 (New). **Soviet Foreign Policy.** (2:2:0) S. Mabey
Marxist-Leninist concepts of international politics and their practical application including such issues as the Communist International and "peaceful coexistence."
- 575 (375, 376). **International Law.** (5:5:0) S. Reeder
Nature and function of international law; recognition, succession, jurisdiction, rights, and immunities of states; nationality and jurisdiction over nationals.
- 580 (New). **International Relations of the Far East.** (3:3:0) S. Hillam
International relations of Asia with emphasis on the problems of imperialism, colonialism, nationalism, and communism.
- 590 (590). **Jurisprudence.** (3:3:0) S. Staff
- 591 (391). **Anglo-American Legal Institutions.** (3:3:0) S. Staff
Origins and development of common law and equity, the writ system, court systems, basic legal terms, the anatomy of a law suit.
Problem approach to ancient and modern legal philosophies, with special attention given the nature of justice and the relation of law to morality.
- 593 (593). **Administrative Law of the U.S.** (3:3:0) F. Reeder
Legal setting for administrative bodies and judicial control of administrative action. Cases in administrative law read and discussed.
- 595 (306, 595). **American Constitutional History.** (3:3:0) F. Prerequisite: Political Science 110. Jensen
History and development of the Constitution; study of its fundamental provisions, their interpretation and application in the functioning of the American system of government.

These courses also count in political science:

- Geography 522 (565). **Urban Geography.** (2:2:0)
- Economics 575 (575). **Government Finance.** (3:3:0)
- Economics 576 (576). **Government and Business.** (3:3:0)

Graduate Courses

- 601 (601). **Modern Political Philosophy.** (2:2:0) S. Offered alternate years. Staff
- 605 (605). **Roots of American Democracy.** (2:2:0) F. Offered alternate years. Staff
- 610 (610). **American Political Problems.** (2:2:0) F. Offered alternate years. Grow
- 630 (630). **Comparative Public Administration.** (3:3:0) S. Offered alternate years. Grow
- 650 (650). **Democratic Governments.** (2:2:0) F. Offered alternate years. Staff
- 651 (651). **Totalitarian Governments.** (2:2:0) S. Staff
- 665 (665). **International Organization in the 20th Century.** (2:2:0) S. Staff
- 670 (670). **International Relations in the 20th Century.** (2:2:0) S. Staff
- 675 (675). **Modern International Law.** (2:2:0) S. Reeder
- 690 (690). **Supreme Court of the United States.** (2:2:0) F. Staff
- 696 (696). **Constitutional Law in the 20th Century.** (2:2:0) F. Reeder
- 698 (698). **Directed Readings in Political Science.** (1-2:0:1-2) F.S. Staff
- 699 (699). **Thesis for Master's Degree.** (2-4:0:2-4) F.S. Staff

Psychology

Professors: Howell (chairman, 1230 SFLC), Allen, Robinson.

Associate Professors: Hardy, Taylor.

Instructors: Budge, White.

The study of psychology should be of value to the general student in the following ways: (1) provide him with a scientific understanding, for its own sake, of behavior and experience; (2) develop insights into his own behavior and that of others, useful in meeting everyday problems of life; (3) assist in cultivating more careful habits of thought concerning human behavior; and (4) enhance his appreciation of people.

The field of psychology offers careers in college teaching (and high school to a lesser degree); various counseling services in elementary and secondary schools; clinical service in clinics, institutions, and private practice; various psychological services in business, industry, and government; research in human engineering; and many other areas. Most professional fields of psychology require advanced degrees, but there are a limited number of opportunities for those with bachelor's degrees, such as high school teaching, probation and junior level social work, employment interviewing and testing, and junior level psychological testing (psychometry).

The study of psychology also has particular value to students preparing for teaching and counseling of any kind, social work, parenthood, law, medicine, various branches of business, and public administration. Psychology may also be of value in any other specialization concerned with man and his works.

For a major in psychology, a total of 30 hours is required, including Psychology 111, 360, 365, 370, 374, 378, and one seminar. Courses listed as soc-psych (social psychology) may be used for credit either in sociology or psychology, but not in both. A maximum of 6 of the 30 hours may be chosen from a selected list of courses in other departments, with the consent of the student's adviser. Students planning to terminate with a bachelor's degree should choose a minor area which will broaden their employment opportunities. Suggested areas are secretarial work, various branches of business, recreation, and social work.

For a minor in psychology, the following program is recommended: Psychology 111, 311, or any two of Psychology 360, 365, 378; and the remaining 5 or 8 hours chosen to meet the particular needs of the student.

The following graduate programs are offered: a master's degree in general psychology; a master's degree for school psychologists; a Ph.D. in counseling psychology, given in collaboration with the Department of Educational Research and Services; a Ph.D. in clinical psychology; and a Ph.D. in general psychology. See the Graduate School Catalog for details on these programs.

Lower Division Courses

- 10 (101). Effective Study.** (0:2:0) F.S. Staff
 Budgeting time, notemaking, memorizing, improvement of reading, use of library, etc. Open to lower division students only, except by consent of instructor. (Extensive help with reading skills is offered by the Counseling Service. A non-credit course in developmental reading also is available through Adult Education and Extension Services.)
- 50 (105). Psychology Adjustment.** (0:2:0) F.S. Staff
 Applications of psychology to typical problems of college students in such areas as vocational, social, and emotional adjustment.

- 111 (111). **General Psychology.** (3:3:0) F.S.Su. (G-SS) Staff
Foundation course covering essentials of modern scientific psychology.
Prerequisite for most upper division psychology classes.
- 185 (185). **Physiological Psychology.** (2:2:0) F. Prerequisite: Psychology 111. Staff
Examination of the physiological foundations of behavior and their relation to behavior phenomena. Designed as a second course in psychology to follow Psychology 111.
- 205 (205). **Applied Psychology.** (2:2:0) F.S. Prerequisite: Psychology 111. Budget
Survey of applications of psychological principles and techniques in the fields of business, industry, advertising and selling, legal procedures, medicine, and education.
- 357 (257). **(Soc-Psych) Group Relations and Leadership.** (2:2:2) F.S. Prerequisite: Psychology 111 or Sociology 111. Dyer, Hardy
This course may be used for credit either in psychology or sociology, but not in both. Designed to help the individual participate effectively in groups and to assist leaders to become efficient in role performance.

Upper Division Courses

- 311 (311). **Advanced General Psychology.** (3:3:0) F.S. Prerequisite: Psychology 111. Staff
Intensive survey of the general field with special emphasis on topics not covered in detail in Psychology 111. Intended for minors or other advanced students not planning to take Psychology 360, 365, and 378.
- 320 (320). **Psychology of Childhood.** (2:2:0) F.S. (†G-SS) Prerequisite: Psychology 111. Budget, Taylor
Critical presentation of research on physical, mental, emotional, and social development of the child and his interests, values, and motivations. Primarily for majors and minors.
- 321 (321). **Psychology of Adolescence.** (2:2:0) F.S. (†G-SS) Prerequisite: Psychology 111. Budget, Taylor
Development and maturation during adolescence, with special attention to research methodology. Programs of sex-social adjustment, independence, vocational adjustment, and emotional and social maturing in our society.
- 322 (322). **Psychology of Adult Life.** (2:2:0) S. (†G-SS) Prerequisite: Psychology 111. Taylor
Physiological, intellectual, personality, and motivational changes associated with adulthood; geriatric and gerontological emphasis.
- 330 (330). **Industrial Psychology.** (2:2:0) F.S. Prerequisite: Psychology 111. Hardy
Special application of psychology in human relations program for management. Important issues in relation to motivation, morale, safety, efficiency, etc.
- 336 (337, 338). **Personnel Psychology: Theory and Practice.** (4:2:6) F.S. Prerequisite: Psychology 111. Lee
Selection, application, and interpretation of psychological tests; job analysis; personality problems of the worker; projects in employment and placement, personnel interviewing, and employee morale questionnaires.
- 340 (340). **Mental Hygiene.** (2:2:0) F.S. Prerequisite: Psychology 111. Budget
Intended to yield insight into prevention and amelioration of mental and personal difficulties. Important for prospective parents, teachers, and social workers.
- 350 (350). **(Soc-Psych) Introduction to Social Psychology.** (3:3:0) F.S. (†G-SS) Prerequisite: Psychology 111 or Sociology 111. Dyer, Hardy
May be used for credit either in psychology or sociology, but not in both.

Nature of social influence; socialization; concepts of norm, role status; development of beliefs and attitudes; leadership; group processes. Applications to prejudice, persuasion, social control.

- 360 (360). Cognitive Processes.** (3:3:0) F.S. Prerequisite: Psychology 111. Allen
Core course for majors and other advanced students; sensation; perception; thinking relationships to other psychological processes.
- 365 (365). Motivation.** (3:3:0) F.S. Prerequisite: Psychology 111. Hardy
Core course for majors and other advanced students. Theories of motivation; research methods and results; bases of motivation; emotions and motivation; measuring motivation; motivation as related to learning and cognitive processes; practical implications.
- 370 (370). Elementary Statistics.** (4:4:0) F.S. Prerequisite: Psychology 111. White
Introduction to descriptive and inferential statistics. Measures of central tendency, variability, correlation; sampling theory, tests of significance; reliability and validity.
- 374 (374). Experimental Psychology.** (3:1:4) F.S. Prerequisites: Psychology 111, 370 or equivalent. Staff
Psychological methodology and its application to fields of sensation, perception, emotion, learning, motivation, and individual differences; conducting and reporting of representative experiments.
- 378 (378). Abilities.** (3:3:0) F.S. Prerequisite: Psychology 111. Howell, Taylor
Core course for majors, minors, and other advanced students. Statistical methodology of assessing and interpreting abilities; tests of abilities and their purposes; group differences of abilities.
- 445 (445). Exceptional Children.** (2:2:0) S. Prerequisite: Psychology 111. Allen, Taylor
Diagnosis of exceptionalities and their psychological significance; gifted, mentally retarded, physically and emotionally handicapped children; treatment measures. Survey course for students interested in management of children.
- 454 (554). Psychology of Religion.** (2:2:0) S. Prerequisite: Psychology 111. Allen
Classification of religious behavior and experience; sources of religious motivation; religion and the growth process; personality and religious choices; mental hygiene assets and hazards in religion.
- 491, 492, 493 (491, 492, 493). Psychology Seminar.** (1:1:0) F.S.Su. Staff
One seminar required of psychology majors. Reports and discussions of special topics and current psychological literature.
- 495 (495). Independent Readings.** (1-2:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor. Staff

Advanced Undergraduate or Graduate Courses

- 510 (510). The Psychology of Aesthetics.** (2:2:0) S. Prerequisite: Psychology 111. Taylor
The arts of perceptual stimuli; the nature of artistic creativity; psychological symbolism expressed in the arts; the artist as a person.
- 540 (540, 440). Abnormal Psychology.** (3:3:2) S.Su. Prerequisites: Psychology 111 and consent of instructor. Allen
Dynamics of maladjustment; implications for normal behavior; review of major and minor psychological disorders; modern therapeutic procedures; field work at Utah State Hospital.

- 550 (550). **Psychology of Personality.** (3:3:0) F.Su. Prerequisites: Psychology 111 and five additional hours in psychology. Allen, Taylor
Major theories of personality; problems of traits, types, and organization; interaction of biological, psychological, and cultural determinants; measurement of personality.
- 552 (552). **(Soc-Psych) Personality: Culture and Society.** (3:3:0) S. Prerequisite: 12 hours of psychology or sociology and anthropology. Christiansen, Hardy
May be used for credit either in anthropology, psychology, or sociology, but not in more than one. Study of the role of culture and society in the formation and functioning of personality.
- 555 (555). **(Soc-Psych) Group Dynamics.** (2:2:0) F. Prerequisite: Sociology-Psychology 350. Hardy
May be used for credit either in psychology or sociology, but not in both. Research and theories in group dynamics.
- 560 (560). **Psychology of Learning.** (3:3:0) S. Prerequisites: Psychology 111, and 5 additional hours in psychology. Allen, Taylor
Current theories of learning; persistent problems; representative experiments; types of learning; principles of effective learning; implications for clinical, educational, and social fields.
- 574 (574). **Advanced Experimental Psychology.** (2:1:5) S. Prerequisites: Psychology 111, 374, or equivalent. Staff
Principles of instrumentation; varieties of experimental designs; nature of experimental controls. Gives experience in planning, conducting, and reporting original exploratory experiments.
- 580 (580). **Comparative Psychology.** (3:3:0) F. Prerequisite: Psychology 111. Staff
Survey of methods and results of research on animal learning, innate behavior, motivation, individual differences, social behavior, abnormal behavior; correlation of structure with function.
- 585 (585). **Advanced Physiological Psychology.** (3:3:0) S. Prerequisite: Psychology 111. Staff
Critical study of physiological processes and psychological functions; physiological mechanisms underlying behavioral processes, including sensation, emotion, sleep and activity, motivation, and learning.
- 598 (598). **Independent Research.** (1-3:0:2-6) F.S. Staff

Graduate Courses

- 606 (New). **Psychology of Music.** (3:3:0) S. Prerequisites: Psychology 111 and Physics 111 or equivalent. Staff
Designed for and required of graduate students majoring in music education. Critical examination of psychophysical functions in music; measurement of auditory thresholds; problem of absolute pitch; time judgments as related to music; nature and measurements of sensory-motor skills; measurement of musical aptitude; personality and emotional factors as related to musical production and appreciation; recent applications of music in therapy; musical creativity as a psychological problem; representative research problems, methods, and results.
- 610 (610, 612). **Systematic Psychology I: History and Contemporary Thought.** (4:4:0) F. Prerequisite: undergraduate core courses. Howell
- 611 (611, 612). **Systematic Psychology II Psychology Theory.** (4:4:0) S. Prerequisite: Psychology 610. Taylor
- 626 (626). **Mental Deficiency.** (2:2:0) F. Prerequisite: Psychology 378 or equivalent. Allen
- 627 (627). **Gifted Children.** (1:1:0) S. Prerequisite: Psychology 378. Staff
- 628 (628). **Psychology of the Physically Handicapped.** (2:2:0) F. Prerequisite: Psychology 378. Taylor

- 640 (640, 641). Individual Test Practice.** (5:1:8) S. Prerequisite: Psychology 378. Howell, Taylor
- 642 (642). Special Clinical Testing.** (2:0:6) S. Prerequisite: Psychology 640. Howell, Taylor
- 651 (651). Problems in Psychopathology.** (2:2:0) S. Prerequisites: Psychology 540 and consent of instructor. Howell
- 655 (655). Psychosomatic Problems.** (2:2:0) F. Prerequisites: Psychology 540 and consent of instructor. Trunnell
- 670 (670, 671). Advanced Statistics I.** (3:3:0) F. Prerequisite: Psychology 370. Howell
- 671 (671, 672). Advanced Statistics II.** (3:3:0) S. Prerequisite: Psychology 670. Howell
- 675 (675). Experimental Psychodynamics.** (2:1:4) F. Prerequisites: undergraduate core courses and consent of instructor. Staff
- 680 (680). Introduction to Psychotherapy.** (3:3:0) S. Prerequisites: undergraduate core courses and consent of instructor. Robinson
- 690 (690). Seminar: Research Problems.** (1:1:0) F. Staff
- 695 (695). Independent Readings.** (1-2:Arr.:Arr.) F.S.Su. Staff
- 699 (699). Thesis for Master's Degree.** (1-4:Arr.:Arr.) F.S.Su. Staff
- 720 (720). Seminar: Clinical Problems of Genetic Psychology.** (1:1:0) S. Prerequisite: consent of instructor. Howell, Taylor
- 740 (740). Introduction to Projective Techniques.** (2:2:0) F. Prerequisite: Psychology 550 and 640. Taylor
- 741 (741). Rorschach Test Practice.** (3:1:8) S. Prerequisite: Psychology 740. Howell, Robinson, Taylor
- 743 (743). Practicum: Diagnostic Testing.** (2:0:6) S. Prerequisite: Psychology 741. Staff
- 747 (747). Internship in Clinical Testing.** (2-4:1:5-11) F.S.Su. Prerequisite: Psychology 743. Staff
- 748 (748). Internship in Clinical Testing.** (2-4:1:5-11) F.S.Su. Prerequisite: Psychology 747. Staff
Continuation of Psychology 747.
- 750 (750). Seminar: Personality.** (1:1:0) F. Prerequisite: consent of instructor. Staff
- 760 (760). Seminar: Learning.** (1:1:0) S. Prerequisite: consent of instructor. Staff
- 780 (780). Individual Psychotherapy: Practicum.** (3:1:8) F.Su. Prerequisite: Psychology 680. Staff
- 781 (781). Individual Psychotherapy: Practicum.** (3:1:8) S. Staff
Continuation of Psychology 780.
- 782 (782). Group Therapy: Theory and Practice.** (3:1:8) S. Prerequisite: Psychology 680. Staff
- 783 (783). Play Therapy: Theory and Practice.** (3:3:3) S. Prerequisites: undergraduate core courses and consent of instructor. Staff
- 792 (New). Seminar: Social Psychology.** (2:2:0) S. Prerequisite: consent of instructor, Sociology 350, or Psychology 350. Staff
- 799 (799). Ph.D. Dissertation.** (Arr.) F.S.Su. Staff

Recreation

Professors: I. Heaton (chairman, 226 SFH), Hart, Hartvigsen.

Assistant Professors: Hafen, A. Heaton, Stringham.

A student interested in this field may complete courses for a recreation major, a minor, or a composite major. He may also take specified recreation courses to fill certain General Education requirements, and he may register for recreation courses on an elective basis.

Recreation Major

A student majoring in recreation should take the following courses: Recreation 301, 337, 371, 387, 388, 502 or 503, 505, 579; Health 121; Sociology 449; Physical Education 376, 514; Music 201; Youth Leadership 177; one course in crafts; and 5 hours from the list of approved electives. Requirements for a composite major are listed in the College of Education section of this catalog. Appropriate substitutions may be made with the consent of the department chairman.

Recreation Minor

Students minoring in recreation should take the following courses: Recreation 301, 337, 371, 387, 388, 505; Physical Education 380; and 2 hours of approved electives.

Seasonal Intramural Participation

Students are encouraged to participate in the following intramural activities on a non-credit basis. These activities are conducted afternoons, evenings, and on Saturdays.

Autumn	Winter	Spring
Badminton	Basketball	Archery
Cross country run (Turkey trot)	Bowling	Badminton
Flag football	Boxing	Bicycle race
Golf	Checkers	Golf
Handball	Chess	Handball
Horseshoes	Fencing	Horseshoes
Table tennis	Gymnastics	Softball
Tennis	Ice skating	Swimming
Volleyball	Paddleball	Table tennis
	Skiing	Tennis
	Table tennis	Track and field
	Wrestling	

Lower Division Course

123 (123). Skills and Techniques for Outdoor Recreation. (1:0:3) S. Staff

These courses also count in recreation:

Art 256. Design in Plastic Art Media. (2:4:0)

Art 263. Design in Crafts. (2:4:0)

Health Education 121. First Aid. (2:2:0)

H.D.F.R. 210. Child Development. (3:3:1)

- Industrial Education 106. Recreational Handicrafts.** (2:1:3)
- Industrial Education 260. Crafts.** (3:2:4)
- Music—1 hour in any vocal class.**
- Music—1 hour in any instrumental class.**
- Music 102. Music Fundamentals and Skills for Classroom Teachers.** (2:2:1)
- Music 201. Baton Technique and Hymnody.** (2:2:0)
- Physical Education—any 4 hours of activity courses numbered from 101 to 286.**
- Physics 177. Physics of Light and Photography.** (3:2:3)
- Sociology 257. Group Relations and Leadership.** (2:2:0)
- Youth Leadership 172. Cub Leadership.** (2:2:1)
- Youth Leadership 173. Boy Scout Leadership.** (2:2:1)
- Youth Leadership 174. Explorer Leadership.** (2:2:1)
- Youth Leadership 177. Scouting in the L.D.S. Church.** (2:2:1)

Upper Division Courses

- 301 (301, 331). Introduction to Recreation.** (2:2:0) F.S.Su. I. Heaton
- 337 (537). Philosophy of Recreation.** (2:2:0) F.S.Su. (G-HA)
A. Heaton, I. Heaton
- 371 (371). Planning for Family and Neighborhood Recreation.** (2:2:0) S.Su.
Stringham
- 387 (387). Planning for Social Recreation.** (2:2:0) F.S.Su. Staff
Principles and techniques for planning and conducting social recreational activities.
- 388 (388). Leadership in Church Dance.** (2:2:0) F.S.Su. Staff
Designed to give experience and training in dance programs for community, school, and particularly church recreation leaders.

These courses also count in recreation:

- Industrial Education 360. Crafts.** (3:2:4)
- Instruction 324. Arts and Crafts for Elementary Teachers.** (2:2:1)
- Instruction 406. Teaching Materials Laboratory (Audio-Visual Aids).** (2:2:1)
- Physical Education 376. Physical Education for Teachers of Intermediate Grades.** (2:0:4)
- Sociology 383. Juvenile Delinquency.** (2:2:0)
- Sociology 449. Community Organization, Action, and Planning.** (2:2:0)
- Speech and Dramatic Arts 305. Discussion and Conference Leadership.** (2:3:0)
- Speech and Dramatic Arts 412. Religious Drama.** (2:2:0)
- Youth Leadership 302. Summer Camp Administration.** (1:Arr.:full summer)
- Youth Leadership 491. Conference Planning Technique.** (1:1:1)

Advanced Undergraduate or Graduate Courses

- 502 (502). Camping Education.** (2:2:0) S.Su. Stringham

- 503 (503). Administration of School and Community Camps. (2:2:0) S. Stringham
Objectives and problems involved in establishing community and school camps. Best practices dealing with location, safety, health, and program of activity are thoroughly analyzed.
- 505 (331, 505). Administration of Community Recreation. (3:3:0) S.Su. I. Heaton
Problems peculiar to the organization and administration of a community recreation program including objectives, legal aspects, facilities, personnel, activities, budgeting, and public relations.
- 579 (579). Directed Leadership in Recreation. (2-6:1:6-18) F.S.Su. Prerequisite: consent of department chairman. I. Heaton
Supervised experience in public and private recreation programs.
- 583 (683). Workshop in Recreation Dance. (2:2:0) S.Su. A. Heaton

These courses also count in recreation:

- Physical Education 514. Organization and Administration of Intramural Sports. (2:2:0)
- Physical Education 571. Teaching Progression in Team Sports—Men. (2:1:2)
- Physical Education 572. Teaching Progression in Team Sports—Women. (2:1:2)
- Political Science 535. Municipal Government and Administration. (3:3:0)
- Sociology 551. Sociology of Recreation. (2:2:0)

Graduate Courses

- 607 (607). The Conduct of Playgrounds. (2:2:0) S.Su. A. Heaton
- 609 (609). The Recreation Program. (2:2:0) F.Su. I. Heaton
- 694 (694). Seminar in Readings. (2:2:0) F.S.Su. I. Heaton
- 696 (696). Seminar in Problems in Recreation. (1:1:0) S. I. Heaton
- 698 (698). Field Projects. (1-4:2-5:0) F.S.Su. I. Heaton
- 699 (699). Thesis for Master's Degree. (1-4:1-5:0) F.S.Su. I. Heaton

These courses also count in recreation:

- Health Education 696. Seminar in Problems. (1:1:0)
- Instruction 624. Advanced Arts and Crafts for Elementary Teachers. (2:2:1)
- Instruction 626. Arts and Crafts for the Handicapped. (2:2:1)
- Instruction 663. Directing Out-of-Class Activities in the Secondary Schools. (2:2:0)
- Physical Education 602. Seminar in Administration. (3:3:0)
- Physical Education 603. Planning Facilities. (2:2:0)
- Physical Education 692. Research Methods in Physical Education. (3:3:0)
- Physical Education 696. Seminar in Problems. (1:1:0)

Religious Education

Professors: Belnap (chairman, 120 S), Berrett.

An undergraduate major or minor is not offered in this department. A graduate major or minor is offered at the master's level but not at the doctoral level. (See section on College of Religious Instruction.)

Upper Division Course

- 371 (344). Teaching the Scriptures.** (2:2:0) F.S. Prerequisite: consent of instructor. Anderson
Designed for prospective seminary teachers.

Advanced Undergraduate or Graduate Courses

- 570, 571 (603, 604). Methods of Teaching Religion in the Secondary School.** (2:5:0 ea.) Su. Not offered this year. Berrett, Staff
572, 573, 574 (534, 535, 536). Lectures in Theology. (1:4:0 ea.) Su. Not offered 1961. Berrett, Staff

This course also counts in religious education:

Theology 530 (New). L.D.S. Theology. (2:2:0)

Graduate Courses

- 661 (678 in 60-61; 621 in 59-60). Problems of Old Testament Teaching.** (2:2:0) F. (2:5:0) Su. Rasmussen
662 (678 in 60-61; 621 in 59-60). Problems of New Testament Teaching. (2:2:0) S. (2:5:0) Su. Turner
663 (679 in 60-61; 622 in 59-60). Problems of L.D.S. Church History Teaching. (2:2:0) S. (2:5:0) Su. Clark
664 (679 in 60-61; 622 in 59-60). Problems of Book of Mormon Teaching. (2:2:0) F. (2:5:0) Su. Ludlow
670 (601). Survey of Religious Education. (2:2:0) F.S. (2:5:0) Su. Belnap
671, 672 (605, 606). Curriculum of Religion in Secondary Schools. (2:5:0 ea.) Su. Not offered 1961. Berrett, Staff
673, 674 (607, 608). Methods of Teaching Religion in College. (2:5:0 ea.) Su. Not offered 1961. Berrett, Staff
675, 676 (609, 610). Teaching Religion in Colleges. (2:5:0 ea.) Su. Not offered 1961. Berrett, Staff
677 (611). Problems of Teaching Religion. (1:3:0) Su. Not offered 1961. Berrett, Staff
680 (New). Philosophic Problems and Religious Instruction. (1:3:0) Su. Madsen, Riddle, Yarn
699 (New). Thesis for Master's Degree. (1-4:1-4:0) F.S.Su. Staff

These courses also count in religious education:

- E.R.S. 620 (620). Introduction to Counseling Theory and Practice.** (3:3:0)
Hist. and Phil. of Relig. 681 (651). Seminar: Philosophical Analysis. (2:2:0)
Hist. and Phil. of Relig. 683 (653). Seminar: Philosophy of Religion. (2:2:0)

Sociology and Anthropology

Professors: Symons (chairman, 1222 SFLC), Ballif, Bradford, Smith.

Associate Professors: Christiansen, Dyer, Empey, Larsen, Vernon.

Assistant Professors: Payne, Peterson, Sorenson.

SOCIOLOGY

Sociology is the scientific study of human interaction and the results of such interaction. Attention is given to the social systems which are thus developed and to the norms, roles, statuses, institutions, knowledge, values, etc. (culture) which are related thereto, including the relationship of these factors to conditions of social stability and instability. Specific application of sociological concepts is made to major social units such as familial, peer, religious, educational, occupational, political, medical, racial, and ethnic groups.

A sociology major is necessary for students planning to become professional sociologists in teaching, research, or other applied areas. Sociology is also relevant for those planning careers in areas such as social work, teaching, counseling, research, professional scouting, Red Cross work, community planning, industrial relations, and governmental service. Courses in sociology are helpful to students interested in gaining an understanding of the behavior of their fellow-men and increasing their own effectiveness in relationships with others.

Suggestions for a Major

Majors in the department are required to take Sociology 111, 112, 320, 397, 404, 405, 491, and to present total sociology credit of 30 hours or more. A maximum of 6 of the 30 hours may be chosen from a selected list of courses in other departments, with consent of the departmental adviser. Courses listed as socpsych (social-psychology) may be used for credit either in sociology or psychology, but not in both.

Sociology is one of the subjects comprising the composite major in social science designed for prospective teachers. See courses in sociology listed under the College of Education.

Suggestions for a Minor

For students minoring in sociology the following program is recommended: Sociology 111 and 112, with remaining hours to be recommended according to the needs of the student.

Lower Division Courses

- 111 (111). Introductory Sociology.** (3:3:0) F.S.Su. Home Study also. (G-SS) Staff

Foundation course designed to give groundwork for all sociological study. Presents general view of how social organization affects human behavior.

- 112 (112). Social Disorganization.** (3:3:0) F.S.Su. Home Study also. (G-SS) Staff

Analyzes forces within society which produce disorganization. Considers specific problems such as crime, race relations, mental health, divorce, alcoholism, and delinquency.

- 125 (125). Applied Sociology.** (2:2:0) F.S.Su. (G-SS) Staff

Presents applications of sociological principles and teachings in such fields as teaching, business and industry, nursing, military life, and medicine.

- 257 (257). (Soc-Psych) **Group Relations and Leadership.** (2:2:0) F.S.Su. Home Study also. Staff
Designed to help the individual participate effectively in group life and to assist leaders to become efficient in role performance.

Upper Division Courses

- 300, 301 (New). **People and Cultures Around the World I, II.** (1-3:Arr.:Arr.) F.Su. Limited to participants in B.Y.U. Travel Studies Program. Staff
Analyzes the principal sociological aspects of those societies included in the B.Y.U. Travel Studies Tours.
- 316 (316). **Social Control.** (2:2:0) S. Ballif, Larsen, Vernon
Importance of public opinion, belief, social suggestion, ceremony, personal ideals, etc. as means of controlling behavior.
- 320 (320). **Social Statistics.** (3:3:0) F.S.Su. Home Study also. Staff
Statistical procedures used in sociological research, including analyses of measurements of central tendency, dispersion, symmetry, testing, hypotheses, estimation from samples, and scientific prediction.
- 348 (348). **Collective Behavior.** (2:2:0) S. Ballif, Larsen
The action of groups which operate without clearcut direction from the culture within which they are found. Such groups as lynching mobs, riots, and crowds are analyzed as well as mass behavior and communication. The causes, nature, and consequences of such behavior are considered.
- 350 (350). (Soc-Psych) **Introduction to Social Psychology.** (3:3:0) S.Su. (G-SS) Prerequisite: Sociology 111 or Psychology 111. Staff
Nature of social influence; socialization; concept of norm; role and status; development of beliefs and attitudes; leadership; group processes. Applications to prejudice, persuasion, social control.
- 360 (360). **Introduction to Social Work.** (2:2:0) F. Ballif, Symons
Introductory survey of the various fields and methods of social work. Considers implications of social work for the related professions.
- 362 (362, 363). **Introduction to Social Case Work.** (2:2:0) F. Ballif, Symons
Analyzes principles and practices of case work with the maladjusted and dependent.
- 364 (New). **Introduction to Social Group Work.** (2:2:0) S. Prerequisite: Sociology 360. Dyer, Larsen, Symons
Analyzes the principal theories and practices in social group work.
- 370 (580). **Social Relations in Medical and Health Organizations.** (2:2:0) S. Dyer, Peterson
Analyzes the structure of medical and health organizations. Designed for pre-medical, pre-dental, and health education students.
- 380 (380). **Introductory Criminology and Penology.** (3:3:0) F.S.Su. Empey, Smith, Symons
Analyzes nature and extent of criminal behavior. Emphasizes current theory and research as they relate to the causes of crime.
- 383 (383). **Juvenile Delinquency.** (2:2:0) F.S.Su. Home Study also. Prerequisite: Sociology 111. Empey, Peterson, Smith, Symons
Analyzes lawlessness of children and adolescents. Stresses causations, treatment, prevention, and outlook.
- 386 (386). **Organized Crime.** (2:2:0) F.S. Prerequisites: Sociology 111, 380. Empey, Smith, Symons
Historical backgrounds for development of organized crime in the United States. Considers proposals for prevention.
- 389 (389). **Social Aspects of Mental Health.** (3:3:0) F. Home Study also. (G-SS) Christiansen, Symons
Personality disorders and emotional maladjustments which originate in group life. Social causation, treatment, and prevention of mental ills.

- 397 (519). **Methods of Research in Sociology.** (3:3:0) S.Su. Prerequisite: Sociology 111. Staff
Basic methods of research used in investigation of sociological data.
- 403 (403). **Marriage and the Family in American Society.** (2:2:0) F.S.Su. Home Study also. Staff
Analyzes the effect that American society has upon successful marriage and family living. Problems connected with the roles of child, adolescent, wife, husband, and the aged are discussed.
- 404 (503, 504). **Development of Sociological Theory.** (3:3:0) F. Prerequisite: Sociology 111. Bradford, Dyer, Smith
Analyzes the development of prominent sociological theories and the contributions of outstanding theorists.
- 405 (505). **Sociological Principles.** (3:3:0) S. Prerequisite: Sociology 111. Bradford, Dyer
Analysis of generalizations derived by sociology concerning how social interaction, groups, institutions, roles, statuses, and culture affect human behavior.
- 410 (392). **Racial and Minority Group Relations.** (2:2:0) F.Su. Home Study also. Ballif, Larsen
Basic processes in present-day inter-relations of racial and minority groups. Analyzes prejudice, its causes, and programs for its reduction.
- 420 (550). **Population Problems.** (3:3:0) F. Home Study also. Staff
The relationship of population factors to important problems encountered in education, labor, government, and other facets of modern life.
- 423 (423). **Rural Sociology.** (2:2:0) S. Prerequisite: Sociology 111. Bradford, Christiansen, Payne, Symons
Gives attention to the particular factors and problems of rural life.
- 426 (426). **The Sociology of Urban Life.** (3:3:0) S. Prerequisite: Sociology 111. Payne, Smith
A sociological examination of norms, social controls, and social processes (and changing patterns in all of these) as they are seen in urban social life in both historical and contemporary perspective. Human ecology is also emphasized.
- 446 (446). **Sociology of Industrial Relations.** (3:3:0) S. Larsen
Role that social forces play in determining industrial organization. Emphasizes labor-management relations and problems of applied industrial sociology.
- 449 (449). **Community Organization, Action, and Planning.** (2:2:0) F. Ballif, Dyer
Basic fundamentals of community life. Analyzes techniques and methods for organizing community resources for efficient achievement of community objectives.
- 470 (590). **Social Change.** (3:3:0) S.Su. Prerequisite: Sociology 111. Ballif, Bradford, Peterson
Analyzes the factors and processes of social change.
- 491 (528). **Senior Seminar.** (2:2:0) F.S.Su. Prerequisites: Sociology 111; senior standing. Staff
Analysis, formation, and integration of basic sociological concepts.

Advanced Undergraduate or Graduate Courses

- 512 (512). **Sociology of Education.** (2:2:0) S. Smith
Analyzes principles of sociology of education and their implication for theory and practice of school administration, curricula, and methods of instruction.

- 516 (516). Sociology of Religion.** (2:2:0) F. Ballif, Empey, Smith, Vernon
Analyzes influences of social factors in development of various religious systems.
- 524 (524). Advanced Social Statistics.** (3:3:0) F. Prerequisite: Sociology 111.
Advanced course designed for those who intend to do research or continue in graduate work.
- 542 (542). Social Movements.** (2:2:0) S. Ballif, Payne, Symons
Discusses social aspects of various movements from Adam Smith to John Dewey with special emphasis upon social reform movements in the United States.
- 543 (543). Social Legislation.** (2:2:0) S. Ballif
Basic problems and techniques of social legislation. Analyzes various systems now in operation.
- 551 (551). Sociology of Recreation.** (2:2:0) S.Su. Ballif, Payne
Treats relations of recreational interests to growth, group behavior, and social maladjustments. Emphasizes basic theories of recreative activities.
- 552 (552). (Soc-Psych) Personality: Culture and Society.** (3:3:0) F. Prerequisite: Sociology 111 or Psychology 111. Christiansen, Dyer, Hardy, Sorenson
- 555 (555). (Soc-Psych) Group Dynamics.** (2:2:0) S. Prerequisite: Sociology 350. Dyer, Hardy
Analyzes research and theories of group dynamics.
- 560 (560). Family and Kinship.** (2:2:0) S. Bradford, Empey
Emphasizes the family in several different societies and problems created by various family systems.
- 570 (570). Class, Status, and Power.** (2:2:0) F. Prerequisite: Sociology 111. Empey, Peterson
Analyzes the major status and class systems in various societies. Also discusses power relations in such systems.
- 591 (583). Seminar in Crime Causation and Treatment.** (2:2:0) S. Prerequisites: Sociology 111, 380. Empey, Smith, Symons
Considers the major causes of crime and analyzes prevalent theory and techniques of treatment of criminals.
- 595 (536). Directed Readings.** (1-3:0:2-6) F.S.Su. Staff
Readings in special areas.
- 596 (New). Directed Readings.** (1-3:0:2-6) F.S.Su. Staff
Reading in special areas.
- 597 (520, 521). Advanced Research Methods.** (3:3:0) S. Prerequisite: Sociology 397. Staff
Analyzes methods used in investigation of sociological data. Field projects give the student actual experience in research.

Graduate Courses

- 604 (New). Seminar in Sociological Theory.** (2:2:0) F.S.Su. Offered 1961-62 and alternate years. Prerequisites: Sociology 111, 404, and 405. Bradford, Dyer
Advanced course in sociological theory.
- 670 (New). Social Structure of the Mental Hospital.** (3:1:4) F. Prerequisite: consent of instructor. Peterson, Vernon
In cooperation with the Utah State Hospital, students will participate in an analysis of the relationship between social structure of the hospital and patient behavior.
- 686 (686). Problems in Race Relations.** (2:2:0) F. Ballif, Larsen
Considers significant problems of a specialized nature in the field of race relations.

- 699 (699). **Thesis for Master's Degree.** (Arr.) F.S.Su. Staff
- 701 (New). **Advanced Statistical Methods.** (2:2:0) S. Prerequisites: Sociology 320, 524. Christiansen, Peterson
Consideration of advanced statistical techniques such as scalogram analysis, factor analysis, and latent structure analysis.
- 791 (New). **Seminar: Social Organization** (2:2:0) F. Prerequisites: Sociology 111, 405. Staff
Comprehensive examination of major theories of organization with emphasis upon theory construction.
- 792 (New). **Seminar: Social Psychology.** (2:2:0) S. Prerequisites: consent of instructor; Sociology 350. Staff
Designed to give advance work to graduate students. Gives special emphasis to group processes and socialization.
- 796 (796). **Special Research Problems.** (1-3:0:2-6) F.S.Su. Staff
- 797 (798). **Special Research Problems.** (1-3:0:2-6) F.S.Su. Staff
- 799 (New). **Dissertation for Ph.D.** (Arr.) F.S.Su. Staff

ANTHROPOLOGY

Anthropology is the discipline which seeks to explain similarities and differences in the ways of life of mankind. While centered in the social sciences, it has important historical roots and interests in the natural sciences on the one hand and the humanities on the other. The field has two major divisions. Cultural anthropology investigates the patterns of man's activities, called culture; professional specialists who often work in this field are ethnologists, archaeologists, linguists, folklorists, and social anthropologists. Physical anthropology deals with the relationship between man's biological nature and his culture.

A major in this area will provide a sound basis for graduate work leading to professional research and teaching. This major also constitutes a challenging approach to liberal education for those not planning advanced work. It also qualifies the student for many positions where a broad social science background is required.

Requirements for a Major

The requirement for the bachelor's degree with a major in anthropology is the completion of 30 hours in this field, and must include Anthropology 101, 111, 241, 361, 325, 401, and 590. Approval may be obtained to substitute up to 7 hours of credit from courses in closely related fields.

Requirements for a Minor

A minor in anthropology requires 16 hours in this field including Anthropology 101, 111, and 490.

Lower Division Courses

- 101 (100). **Introductory Anthropology.** (3:3:0) F.S. Home Study also. (G-SS) Staff
Basic concepts, data, and conclusions of anthropology; the study of the reasons for likenesses and differences in men's ways of life.
- 111 (110). **Cultures of the World.** (3:3:0) F. Home Study also. (G-SS) Staff
Ethnology. The variety of human designs for living seen through study of specific cultures and world distributions of cultural features.
- 241 (241). **The Growth of Culture in the Old World.** (3:3:0) F. Sorenson
The course and processes of development of culture in the eastern hemisphere from the earliest evidence on, with emphasis on prehistory.
- 246 (246). **The Growth of Culture in the New World.** (2:2:0) S. Prerequisite: any one other course in anthropology or consent of instructor. Sorenson
History, in cultural terms, of the western hemisphere before the coming of the Europeans.

- 261 (261). Physical Anthropology.** (2:2:0) F. Staff
The relation of man as a physical organism to his cultural behavior.
Also the methods of present-day physical anthropology.

Upper Division Courses

- 305 (430). Religion in the Simpler Cultures.** (2:2:0) F. Sorenson
- 325 (New). Introduction to Linguistics.** (2:2:0) S. Blair
For course description see Linguistics 325, Language Department.
- 401 (New). Comparative Cultural Systems.** (3:3:0) S. Prerequisite: Anthropology 101 or consent of instructor. Sorenson
Social anthropology. Study of the major theoretical approaches to the problem of cultural patterning in relation to social structure.
- 417 (New). Native Peoples of North America.** (2:2:0) F. Recommended prerequisite: Anthropology 101. Staff
Distribution, cultural characteristics, and culture-historical background of the native peoples north of Mexico.
- 418 (New). Native Peoples of Central and South America.** (2:2:0) S. Offered 1962-63. Recommended prerequisite: Anthropology 101. Staff
Distribution, cultural characteristics, and culture-historical background of native peoples of the area.

This course also counts in anthropology:

Art 403. Ancient and Primitive Art. (2:2:0)

Advanced Undergraduate or Graduate Courses

- 590 (640). Theory and Method of Anthropology.** (2:2:0) S. Recommended prerequisite: Anthropology 401. Staff
Historical growth of theory in the discipline, methods, and techniques for gathering and analyzing cultural data.

This course also counts in anthropology:

Sociology 552. (Soc-Psych) Personality: Culture and Society. (3:3:0)



Statistics

Associate Professors: Nielson (chairman, 348 JK), Gardner.

Assistant Professor: Wilson.

Instructor: Eagar*.

The curriculum in statistics is designed to serve two purposes: (1) to provide for students the necessary educational background for careers as professional statisticians in industrial organizations, government agencies, and research institutes, and (2) to provide an integrated series of courses which will serve the entire University in providing technical tools which can be applied in many subject-matter areas.

Statistics, though a relatively recent professional field of study, has been given greater emphasis by a number of leading universities. There is a growing demand for statisticians in the natural and social sciences as well as in industry.

Statistics is an excellent major or minor in combination with accounting, agricultural economics, botany, business management, economics, education, mathematics, psychology, sociology, zoology, and other departments in the social, agricultural, biological, and physical sciences.

The department offers a major in statistics in either the College of Business or in the College of Physical and Engineering Sciences. The department also offers both an undergraduate and a graduate minor.

Requirements for a Major in Statistics in the College of Business

A. Departmental Requirements:	Hours
Statistics 221, 341, 431, 521, 522, and eight additional hours including at least two of Statistics 333, 432, 434, 532	21
Mathematics 111, 112, 213, 214 or equivalent	20
Total Hours	41
 B. College of Business Requirements:	
Accounting 201 or 211, and 342	8
Business Management 340, 347, 348	9
Economics 111, 112, 345	8
Total Hours	25

Requirements for a Major in Statistics in the College of Physical and Engineering Sciences

A. Departmental Requirements:	
Statistics 221, 341, 431, 521, 522, 531, 541, and eight additional hours	25
Mathematics 111, 112, 213, 214 or equivalent	20
Total Hours	45
 B. College of Physical and Engineering Sciences Requirements:	
At least fifteen semester hours in the College of Physical and Engineering Sciences in addition to the mathematics re- quirement stated above	15

Requirements for an Undergraduate Minor

Fourteen semester hours in statistics including either 221 and 431 or 521 and 522	14
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Suggested Program for Statistics Majors

Freshman Year	Hours
Theology 130, 131	4
Physical education	1
Health 130	2
English 111 and 112 or 115 and 116	4-6
Mathematics 111 and 112	10
History 170	3
General education and elective courses	8-10
Total Hours	34

College of Business Majors

Sophomore Year	Hours
Religion	4
Physical education	1
Mathematics 213, 214	10
Accounting 211	5
Statistics 221	2
Economics 111, 112	5
General education and elective courses	7
Total Hours	34

Junior Year	Hours
Religion	4
Accounting 342	3
Economics 345	3
Business Management 340, 347, 348	9
Statistics 341, 431	5
Other statistics, general education, and elective courses	10
Total Hours	34

Senior Year	Hours
Religion	4
Statistics 521, 522	6
Statistics 593, 594	2
Other statistics, general education, and elective courses	22
Total Hours	34

College of Physical and Engineering Sciences Majors

Sophomore Year	Hours
Religion	4
Physical education	1
Mathematics 213, 214	10
Statistics 221	2
General education and elective courses	6-8
Physical and engineering sciences	7-9
Total Hours	34

Junior Year	Hours
Religion	4
Mathematics courses (300 series)	9-12

Statistics 341, 431	5
Other statistics, physical science, general education, and elective courses	13-16
Total Hours	34

Senior Year	Hours
Religion	4
Statistics 521, 522	6
Statistics 531, 541	4
Statistics 593, 594	2
Other statistics, mathematics, physical science, general education, and elective courses	18
Total Hours	34

Courses of related interest:

Accounting 555, 556, 557
 Animal Husbandry 601
 Botany 176, 376, 377
 B.E.O.M. 206
 Business Management 458, 558, 559
 Economics 682, 684
 Educational Research and Services 540, 541
 Mathematics 311, 312, 315, 316, 371, 372, 387, 541, 542
 Philosophy 480, 483
 Psychology 370, 670, 671
 Sociology 320, 524, 701
 Zoology 176, 376, 576

Lower Division Courses

- 221 (Econ. 331). Principles of Statistics.** (2:2:0) F.S.Su. Prerequisite: Mathematics 101 or Accounting 131 or equivalent. **Staff**
 A basic course in general statistics suitable for students in all fields. Includes frequency distributions; measures of central tendency and dispersion; elementary probability and the normal curve; sampling; linear regression; and elementary inference.
- 231 (Econ. 332). Business Statistics.** (2:2:0) F.S.Su. Prerequisite: Statistics 221 or equivalent. **Staff**
 Includes index numbers; collection and presentation of data; trend, seasonal and cyclical fluctuations; descriptive statistics; survey methods; and elementary quality control.

Upper Division Courses

- 333 (Econ. 533). Elementary Operations Analysis.** (3:3:0) S. Prerequisite: Mathematics 112 or Accounting 332. **Staff**
 Decision-making procedures including linear programming, game theory, inventory models, queueing theory, Monte-Carlo methods.
- 341 (New). Elementary Probability.** (2:2:0) F. Prerequisite: Mathematics 112 or Accounting 332. **Staff**
 Applications of elementary set theory, combinatorial analysis, conditional and marginal probability, independent trials, combination of events.
- 431 (Econ. 431 and Ag. Econ. 530). Statistical Methods.** (3:3:0) F.S. Prerequisite: Statistics 221 or equivalent. **Gardner, Nielson**
 Student's t-distribution; chi-square; analysis of variance; non-parametric inference; multiple and partial regression. Designed for students in all fields.
- 432 (Bus. Mgt. 572). Industrial and Engineering Statistics.** (2:2:0) F.S. Prerequisite: Statistics 221 or equivalent. **Wilson**
 Quality control, sampling inspection, and sequential analysis.

- 434 (Econ. 534). Sampling Techniques.** (2:2:0) F. Prerequisite: Statistics 221. Nielson
Survey design; types of sampling plans; probability and non-probability samples. Application to a variety of fields.

These courses also count in statistics:

Mathematics 311 (311, 312). Computers. (3:1:6)

Mathematics 312 (312, 313). Numerical Analysis. (3:3:0)

Mathematics 315 (318). Applied Mathematical Analysis. (3:3:0)

Advanced Undergraduate or Graduate Courses

- 521, 522 (Math 521, 522, 523). Theory of Statistics.** (3:3:0 ea.) F.S. Prerequisite: Mathematics 214 or equivalent. Nielson
Mathematical theory of statistics including probability; estimation and testing hypotheses; sampling distribution; regression.
- 531 (Ag. Econ. 531). Experimental Design.** (2:2:0) S. Prerequisite: Statistics 221 or 521; recommended prerequisite: Statistics 431 or 522. Staff
Analysis of covariance; linear hypothesis; factorial design; replication; randomization; confounding.
- 532 (Econ. 532). Advanced Business Statistics.** (2:2:0) F. Prerequisite: Statistics 221; recommended prerequisite: Statistics 231.
Business forecasting; advanced time series analysis; multiple regression; growth curves; special projects.
- 541 (New). Advanced Probability.** (2:2:0) S. Prerequisite: Statistics 522 or equivalent.
Hyper-geometric, Poisson, Beta and Gamma distributions, random walk, Markov chains, theory of runs and sequences, stochastic processes, generating functions, laws of large numbers.

These courses also count in statistics:

Accounting 556 (556). Electronic Computer Programming. (3:3:0)

Accounting 557 (557). Advanced Computer Programming. (2:2:0)

Animal Husbandry 601 (601). Experimental Techniques and Design. (2:2:0)

Educational Research and Services 541 (541). Advanced Statistics. (2:2:0)

Psychology 670, 671 (670, 671, 672). Advanced Statistics I and II. (3:3:0 ea.)

Sociology 524 (524). Advanced Statistics. (3:3:0)

Sociology 701 (New). Advanced Statistical Methods. (2:2:0)

Technical and Semi-Professional Institute

Professor: Jeppsen (director, 253A Adm. Bldg.).

Associate Professors: Dean (Computer Programming Technology), Richards (Agricultural Technology).

Assistant Professors: McArthur, Pierce (Industrial Technology).

Instructors: DeMille (Business Technology), Holtkamp, Spencer (Engineering Technology), Allen, Long, McKinnon (Industrial Technology), Jones, Stevenson (Genealogical Technology).

The Technical and Semi-Professional Institute is a major division in General College. It is organized for the purpose of offering to students two-year specialized programs in technical and semi-professional fields. At present these programs include agricultural, business, computer programming, engineering, industrial, and genealogical technology. Each program is developed around a basic core of college subjects, including English, science, mathematics, physical education, health, and religion. It also provides the specialized training necessary to prepare successful potential employees for business and industry. These programs are designed to develop successful and productive citizens with a constructive philosophy of life. Instructors are experienced teachers with advanced technical training and years of successful experience in their respective occupations.

Two-Year Specialized Programs

Agriculture—for general agricultural technicians.

Business—for accounting, business and office management, and commercial art technicians.

Computer Programming—for business and industrial technicians.

Engineering—for civil, electrical, electronics, and mechanical engineering technicians.

Industry—for drafting, light building construction, industrial electronics, tool design, and welding technicians.

Genealogy—for genealogical research technicians.

Entrance Requirements

Requirements for admission to the Technical and Semi-Professional Institute of General College are the same as those for admission to the University listed in the Student Academic Services section of this catalog. In addition to these requirements, students enrolling in engineering technology will find it necessary, in order to complete the required curriculum without loss of time, to have successfully completed three years of high school English and two years of mathematics, including algebra and geometry; also, it would be helpful to have completed one year of physical science, preferably physics. Students having deficiencies in these requirements should consult their program advisers for remedial courses.

Graduation

Upon completion of a two-year curriculum in technology, consisting of a minimum of 64 semester hours of credit, a special certificate indicating the field of specialization will be awarded each student at the regular University graduation exercises.

AGRICULTURAL TECHNOLOGY

Adviser: Grant S. Richards

Training in practical phases of agriculture is offered for those students desiring to complete only two years of college, or who are unable to continue with the four-year professional course leading to a bachelor's degree.

The suggested course of study outlined below is designed to give the student an understanding of the primary phases of practical agriculture along with some basic science courses required for upper division work in agriculture. In these courses emphasis is given to the general principles of crop and livestock production, the economics of agriculture, and the principles of farm management.

In the event the student later decides to continue with the four-year curriculum, all of the courses listed in this suggested study program may be counted toward the bachelor's degree.

Freshman Year			Sophomore Year		
	F	S		F	S
An. Hus. 120, 161, or 170	3		Agronomy 251, 141	4	3
An. Hus. 153		3	Ag. Econ. 101, 125	3	3
Horticulture 101		3	An. Hus. 207		3
Botany 101	3		Chemistry 101, 102*	5	5
Zoology 105		3	Electives	3	2
English 111, 112	3	3	Religion	2	2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Total Hours	17	18
Health 130	2				
Electives	2	2			
Religion	2	2			
Total Hours	15 $\frac{1}{2}$	16 $\frac{1}{2}$			

*Or Chemistry 111, 112.

BUSINESS TECHNOLOGY

Adviser: Stanford DeMille

Office and secretarial workers and persons with accounting training are in great demand in the employment market. Virtually every type of industry employs clerical workers, since office work is such an integral part of every business. In addition to this widespread utilization of office workers, there is a high turnover rate which further accentuates the need for new employees. Despite the use of more and more labor-saving equipment and increased efficiency in office procedure, there will be a continued demand in the future for people with this type of training.

Accounting

Competent accountants with associated business experience are in great demand in both the industrial and business fields. The following two-year program will prepare students for efficient and profitable service in these fields.

Freshman Year			Sophomore Year		
	F	S		F	S
Accounting 131*, 132	2	2	Accounting 212, 301	5	5
Accounting 201 or 211 ..		5	Accounting 255	2	
B.E.O.M. 101	2		Accounting 342	3	
B.E.O.M. 206		2	Bus. Mgt. 347		3
B.E.O.M. 305	3		B.E.O.M. 320		3
Economics 111	3		Electives	4	3
English 111, 112	3	3	Religion	2	2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Total Hours	16	16
Health 130		2			
Religion	2	2			
Total Hours	15 $\frac{1}{2}$	16 $\frac{1}{2}$			

*Or Math 101.

Business and Office Management

This curriculum is outlined for students who are interested in a variety of positions in office work. Students who have a high degree of skill in shorthand and typewriting upon entering the Technical and Semi-Professional Institute may substitute appropriate courses in consultation with the department chairman.

Freshman Year			Sophomore Year		
	F	S		F	S
B.E.O.M. 111, 112	4	4	B.E.O.M. 204, 220	2	3
B.E.O.M. 101, 203	2	2	B.E.O.M. 370	3	
B.E.O.M. 206	2		B.E.O.M. 311, 312	4	4
Economics 111		3	Accounting 201 or 211 ..		5
Clothing and			Accounting 342	3	
Textiles 110*	2		Electives	2	2
English 111, 112	3	3	Religion	2	2
Physical education	1½	1½			
Health 130		2	Total Hours	16	16
Religion	2	2			
Total Hours	15½	16½			

*Elective for girls only.

Commercial Art or Advertising

Artistic ability combined with specialized training in commercial art techniques are the requisites for becoming a commercial artist. Employment and advancement opportunities for well-trained and talented artists with commercial art techniques are generally good. Immediate positions are usually available in a variety of fields.

The close relationship and dependency of commerce and advertising to art is acclaimed in every current magazine. The associated problems and skills in this field of technology are studied and practiced in the following two-year program.

Freshman Year			Sophomore Year		
	F	S		F	S
Art 122, 233	3	2	Art 250, 227	2	2
Art 239, 256	2	2	Art 310, 312	2	2
Art 263, 306	2	3	Art 341, 343	2	2
Bus. Mgt. 347		3	Art 342	2	
English 111, 112	3	3	Accounting 201 or 211 ..		5
Physical education	1½	1½	B.E.O.M. 220	3	
Health 130	2		Bus. Mgt. 315	3	
Electives	2	1	Elective		3
Religion	2	2	Religion	2	2
Total Hours	16½	16½	Total Hours	16	16

COMPUTER PROGRAMMING TECHNOLOGY

Adviser: C. Edwin Dean

The use of digital computers is becoming more and more widespread in all types of business and accounting procedures, in mathematical analysis, and in control of many industrial and commercial processes. It also has capabilities ranging from simple automatic monitoring and recording to complete computer control of complex industrial operations.

Because of this widespread use of digital computers and a growing need for trained technicians in this field, students should be trained in the fundamentals

of the operation of digital computers, the procedures for programming these machines, and the application of these machines to all types of usage. The programming technician would be an important member of the managerial team in developing, operating, and increasing the use of automation in industry.

The following program is designed to prepare students for successful entrance into occupations of this type.

Freshman Year			Sophomore Year		
	F	S		F	S
E.T. 100	1		E.T. 352		3
E.T. 101, 102	3	3	Math 223	3	
Drawing 111	2		Math 311	3	
Math 121, 122	3	3	Accounting 201 or 211 ..	5	
Physics 105, 106	3	3	Accounting 557		2
English 111, 112	3	3	Statistics 221, 231		
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	or 333	2	2 or 3
Health 130		2	Bus. Mgt. 303		3
Religion	2	2	Bus. Mgt. 420		3
			Religion	2	2
Total Hours	17 $\frac{1}{2}$	16 $\frac{1}{2}$	Total Hours	15	15 or 16

ENGINEERING TECHNOLOGY

Adviser: G. Albert Spencer

Since World War II, the field of engineering has developed so rapidly and expanded so greatly, that the engineer now finds himself in need of several competent assistants to help him fulfill his responsibilities in industry. These assistants, who have come to be known as engineering technicians, work with the engineer either directly or indirectly.

The National Committee for the Development of Scientists and Engineers, appointed by President Eisenhower in 1956, has adopted the following definition of an engineering technician,

... the engineering or scientific technician is usually employed in (1) research, design, or development; (2) production, operation, or control; (3) installation, maintenance, or sales. When serving in the first of these functional categories, he usually acts as direct supporting personnel to an engineer or scientist. When employed in the second category, he usually follows a course prescribed by a scientist or engineer but may not work closely under his direction. When active in the third category, he is frequently performing a task that would otherwise have to be done by an engineer.

In executing his function the scientific or engineering technician is required to use a high degree of rational thinking, and to employ post-secondary school mathematics and the principles of physical and natural science. He thereby assumes the more routine engineering functions necessary in the growing technologically based economy. He must effectively communicate scientific or engineering ideas mathematically, graphically, and linguistically.

Our present industrial and technological economy requires an operating ratio of approximately five technicians to one engineer. With the rapid advancement of science and industry, with the tremendous shortage of engineers, and with approximately five times as many technicians needed to adequately support our engineering manpower, the need for qualified engineering technicians becomes a major concern to our country. To meet this need, the following curricula are offered.

Civil Engineering Technology

The national highway expansion and extension program, local and national interest in building construction, perpetual need for land survey, and many other employment sources have created a demand for civil engineering technologists. They become members of the engineering team to aid the civil engineer in designing, constructing, and maintaining civil engineering projects in all areas. The following curriculum is designed to give the student basic and technical training to make him a needed and an efficient aid to the civil engineer.

Freshman Year			Sophomore Year		
	F	S		F	S
E. T. 100	1		E. T. 205, 206	3	3
E. T. 202		2	E. T. 211		3
E. T. 208		3	E. T. 212		2
Drawing 111	2		E. T. 213		2
Math 121, 122	3	3	E. T. 214		2
Physics 105, 106	3	3	E. T. 216	4	
English 111, 112	3	3	C. E. 211	3	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Drawing 257		2
Health 130	2		Drawing 455	2	
Religion	2	2	Math 223	3	
			Religion	2	2
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$	Total Hours	17	16

Electrical Engineering Technology

The steady increase in power consumption throughout the world has created a tremendous demand for electrical power technicians in the fields of power plant operation, power transmission, and distribution; manufacturing of electrical machinery; design and construction of commercial and industrial power systems; and electrical inspecting, estimating, and drafting. The following curriculum is designed to give the student the basic and technical training necessary to effectively fill positions in these fields.

Freshman Year			Sophomore Year		
	F	S		F	S
E. T. 100	1		E. T. 202		2
E. T. 101, 102	3	3	E. T. 221, 222	3	3
Drawing 111	2		E. T. 223, 224	3	3
Math 121, 122	3	3	E. T. 225, 226	2	2
Physics 105, 106	3	3	E. T. 228		2
English 111, 112	3	3	E. T. 241, 242	3	3
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Math 223	3	
Health 130		2	Religion	2	2
Religion	2	2			
Total Hours	17 $\frac{1}{2}$	16 $\frac{1}{2}$	Total Hours	16	17

Electronics Engineering Technology

The space age has placed the electronics technician in a most enviable position. Rockets, jets, atomic power; instrumentation; industrial process control, and automatic manufacturing methods; radio, television, and aviation; metallurgical processes; petroleum and chemical processes; along with others are in themselves demanding that America produce trained, qualified technicians to assist in the technological growth and development of our country. The following curriculum is designed to give the basic and technical training necessary to place the student in the role of a successful electronics engineering technician.

Freshman Year			Sophomore Year		
	F	S		F	S
E. T. 100	1		E. T. 202		2
E. T. 101, 102	3	3	E. T. 221, 222	3	3
Drawing 111	2		E. T. 228		2
Math 121, 122	3	3	E. T. 231, 232	4	4
Physics 105, 106	3	3	E. T. 234		2
English 111, 112	3	3	E. T. 235	4	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	E. T. 237		2
Health 130		2	Math 223	3	
Religion	2	2	Religion	2	2
<hr/>			<hr/>		
Total Hours	17 $\frac{1}{2}$	16 $\frac{1}{2}$	Total Hours	16	17

Mechanical Engineering Technology

The increase in automation in all types of industry today is creating more and more need for trained mechanical technicians to work in design, production, installation, and operation of machines, tools, and all types of metal devices and products. Technicians are also needed in design, construction, and operation of machines and plants that produce power from coal, oil, gas, and nuclear fuels as well as the machines that use this power. The following curriculum is designed to give the student basic technical training to qualify him for the above positions.

Freshman Year			Sophomore Year		
	F	S		F	S
E. T. 100	1		E. T. 202		2
E. T. 101	3		E. T. 205, 206	3	3
I. E. 130		2	E. T. 216	4	
Drawing 111	2		E. T. 241, 242	3	3
Math 121, 122	3	3	I. E. 230		3
Physics 105, 106	3	3	Drawing 311, 410	3	3
English 111, 112	3	3	Math 223	3	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Religion	2	2
Health 130		2	<hr/>		
Religion	2	2	Total Hours	18	16
<hr/>			<hr/>		
Total Hours	17 $\frac{1}{2}$	15 $\frac{1}{2}$			

Engineering Technology

Lower Division Courses

- 100 (New). Orientation in Technology.** (1:1:0) F.S. Jeppsen
Introduction to the fields of industrial and engineering technology.
- 101, 102 (101, 102). Basic Electricity.** (3:2:3) F.S. Holtkamp
Elementary theory of electricity, including direct and alternating current circuits and magnetism; also electronic theory and application of vacuum tubes in detector, amplifier, and oscillator circuits.
- 202 (New). Contracts and Specifications.** (2:2:0) S. Spencer
Preparation and interpretation of engineering and construction contracts and specifications.
- 205, 206 (205, 206, 207). Engineering Materials.** (3:2:3) F.S. Prerequisite: Math 122. Staff
A survey of the materials used in engineering structures and machines. A study of the physical properties of these materials, with emphasis on concrete, aggregates, wood, and steel. Laboratory testing of these materials for purposes of classification and field control.

- 208 (New). **Construction Methods and Equipment.** (3:3:0) S. Prerequisites: Math 121, Physics 105. Staff
Study of construction methods and machinery, including inspection, estimating, and scheduling procedures.
- 211 (New). **Structural Technology.** (3:2:3) S. Prerequisites: Math 223, E.T. 216. Staff
Introduction to the principles of analysis and design of timber, steel, and masonry structures.
- 212 (212). **Water Resources Technology.** (2:1:3) S. Prerequisites: Math 122, Physics 106. Staff
Introduction to basic considerations related to water resources for both domestic and irrigation use. Measurement of flow and other elementary hydraulic principles. Laboratory tests used in water and sewage treatment.
- 213 (213). **Soil Testing Technology.** (2:1:3) S. Prerequisites: Math 122, Physics 106. Staff
An introduction to the techniques of soil testing, including identification, classification, permeability, consolidation, and shear.
- 214 (New). **Highway Technology and Materials.** (2:1:3) S. Prerequisites: Math 122, Physics 106. Staff
Highway transportation fundamentals. Construction and maintenance of highways and streets. Laboratory work in testing procedures.
- 216 (215, 216). **Applied Mechanics.** (4:3:3) F. Prerequisites: Math 122, Physics 106. Holtkamp
Introduction to statics, strength of materials, and dynamics. Elementary principles of structures, stresses in bending and torsion, and basic concepts of kinematics and kinetics. Application to engineering problems.
- 221 (261, 262, 263). **Electrical Machines.** (3:2:3) F. Prerequisites: Math 122, Physics 106, E.T. 102. Spencer
A study of the fundamentals of direct and alternating current machinery including motors, generators, transformers, their control and operation.
- 222 (222). **Electrical Control Systems.** (3:2:3) S. Prerequisite: E.T. 221. Spencer
A continuation of the study of electrical machines with emphasis on industrial electronic control systems.
- 223, 224 (New). **Electrical Power.** (3:2:3) F.S. Prerequisites: Math 122, Physics 106, E.T. 102. Holtkamp
Generation, transmission, and distribution of electric power; electrical and mechanical analysis of power systems; lighting and fuse protection.
- 225, 226 (New). **Practical Wiring and Illumination.** (2:2:0) F.S. Prerequisites: Math 122, Physics 106, E.T. 102. Spencer
Design of low voltage power systems for residential, commercial, and industrial projects. Basic principles of illumination including layout, and design of lighting systems for commercial buildings, roadways, and manufacturing plants.
- 228 (New). **Electrical Drawing.** (2:1:3) S. Prerequisites: Math 223, Physics 106, E.T. 102. Staff
Fundamentals of electrical drawing, including study of electrical symbols, making of electrical circuit drawings, control diagrams, and installation drawings.
- 231, 232 (231, 232). **Electronics.** (4:3:3) F.S. Prerequisites: Math 122, Physics 106, E.T. 102. Staff
An advanced study of electron tubes and circuits such as resonant circuits, coupled circuits, voltage and power amplifiers. Also oscillator, amplitude, and frequency modulation, detection and communications circuits, specialized tubes, devices, and circuits.

- 234 (110). Electrical Trouble Shooting.** (2:1:3) S. Prerequisites: Math 122, Physics 106, E.T. 102. Staff
Maintenance and service of electronic equipment, trouble shooting techniques, and the use of electrical measuring and testing devices.
- 235 (235, 236). Transistors, Servos, and Magnetic Amplifiers.** (4:3:3) F. Prerequisites: Math 122, Physics 106, E.T. 102. Staff
Transistors, servo-mechanisms, and magnetic amplifiers, including their associated equipment, operational characteristics, and applications.
- 237 (New). Electronic Instrumentation.** (2:2:0) S. Prerequisites: Math 223, Physics 106, E.T. 102. Staff
The design and application of basic instrumentation to automated manufacturing and control processes.
- 241 (New). Elementary Heat Power.** (3:2:3) F. Prerequisites: Math 122, Physics 106. Staff
Basic laws of thermodynamics; properties of systems; properties of gases, liquids, and vapors; pressure-volume and temperature-entropy planes; fuels and combustion, and heat transfer.
- 242 (New). Power Plants.** (3:2:3) S. Prerequisites: Math 122, Physics 106. Staff
Classification, performance, capacity, and details of boilers and their auxiliaries and accessories; applications of steam power; work, energy, and efficiencies of engines and turbines; and hydro-electric power.

Upper Division Course

- 352 (New). Advanced Digital Computers.** (3:2:2) Not offered 1961-62. Prerequisite: Math 311. Staff
Advanced coding techniques; advanced computer logic; principles of board wiring using a modern digital computer and auxiliary equipment as laboratory tools.

INDUSTRIAL TECHNOLOGY

Adviser: Ross McArthur

Our present industrial and technological economy requires industrial technicians as well as engineering technicians. The industrial technician serves the trades and industrial occupations in a manner similar to the way the engineering technician serves the engineering profession.

The industrial technician assists with technical details in a trade or occupation. He uses tools, instruments, and/or special devices to design, illustrate, fabricate, maintain, operate, and test objects, materials, or equipment; examines and evaluates plans, designs, and data; and interprets work procedures and maintains harmonious relationships among groups of workers.

To meet the need of trained industrial technicians for industry, the following curricula are provided.

Drafting Technology

This program is offered to prepare students for positions as architectural or mechanical drafting technicians. Drafting technicians are generally in great demand in all areas of scientific research and engineering development. Job opportunities are available in industry and in architects' offices throughout the country. A student should select either the architectural or mechanical drawing curricula for the second year, depending on his particular field of interest.

Freshman Year		
	F	S
Drawing 110, 111	2	2
Drawing 155, 156	2	3
I. E. 196, 197	2	2
Physics 105, 106	3	3
English 111, 112	3	3
Physical education	½	½
Health 130		2
History 170	3	
Religion	2	2
E. T. 100		1
Total Hours	17½	18½

Sophomore Year		
Architectural Drawing		
	F	S
Drawing 210, 257	2	2
Drawing 255, 256	3	2
Drawing 355, 356	3	3
Drawing 310, 455	3	2

I. E. 210, 411	3	3
I. E. 221	2	
Economics 461		3
Religion	2	2
Total Hours	18	17

Sophomore Year		
Mechanical Drawing		
	F	S
Drawing 210	2	
Drawing 310, 311	3	3
Drawing 449, 455	3	2
Drawing 410	3	
I. E. 130, 131	2	2
I. E. 125, 431	2	3
E. T. 205		3
Economics 461		3
Religion	2	2
Total Hours	17	18

Light Building Construction Technology

This curriculum offers instruction toward a two-year technical certificate in light building construction. It is designed to give the student the maximum amount of technical information and training to prepare him to become a successful building construction technician.

Graduates should find employment in the building trades with increased opportunities for advancement in responsible positions in the industry.

Freshman Year		
	F	S
I. E. 100, 200	3	3
I. E. 105, 125	2	2
I. E. 139, 218	2	2
I. E. 196, 197	2	2
Drawing 155		2
English 111, 112	3	3
Physical education	½	½
Health 130	2	
Religion	2	2
E. T. 100		1
Total Hours	16½	17½

Sophomore Year		
	F	S
I. E. 201, 341	3	2
I. E. 210, 211	3	2
I. E. 317		2
I. E. 411		3
C. E. 211	3	
Drawing 156, 255	3	3
Physics 105	3	
Economics 461		3
Religion	2	2
Total Hours	17	17

Industrial Electronics

This curriculum provides a basic preparation for employment in a variety of occupations in the general field of electronics. Graduates of this program should have a good foundation in the principles of electronics, and should have considerable ability in operating, servicing, and directing the use of electronic equipment.

Freshman Year			Sophomore Year		
	F	S		F	S
I. E. 240, 341	3	2	E. T. 231, 232	4	4
I. E. 196, 197	2	2	E. T. 235, 236	4	4
E. T. 100	1		I. E. 139		2
Drawing 110, 111	2	2	E. T. 228	2	
Physics 105, 106	3	3	Economics 461		3
English 111, 112	3	3	History 170	3	
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Electives	2	2
Health 130		2	Religion	2	2
Religion	2	2			
Total Hours	16½	16½	Total Hours	17	17

Tool Design Technology

This curriculum offers comprehensive training for a career as a technician in tool design and construction. It is planned to give the student theoretical as well as practical education in design and use of jigs, fixtures, cutting tools, and other manufacturing equipment.

Graduates should readily find employment as junior tool designers, engineering assistants, laboratory technicians, mechanical draftsmen, inspectors, estimators, or mechanical equipment salesmen.

Freshman Year			Sophomore Year		
	F	S		F	S
I. E. 130, 131	2	2	I. E. 230, 125	3	2
I. E. 130A, 131A	3	3	I. E. 240, 431	3	3
I. E. 120	2		I. E. 335, 336	3	2
I. E. 196, 197	2	2	I. E. 231		5
Drawing 110, 111	2	2	Drawing 311, 210	3	2
English 111, 112	3	3	Physics 105, 106	3	3
Physical education	$\frac{1}{2}$	$\frac{1}{2}$	Religion	2	2
Health 130		2			
Religion	2	2	Total Hours	17	19
E. T. 100		1			
Total Hours	16½	17½			

Welding Technology

This curriculum offers comprehensive training for the preparation of welding technicians for industry. This is a rapidly expanding field and graduates should readily find employment as welding technicians, laboratory technicians, inspectors, equipment and service salesmen, and welders, with excellent opportunities for advancement.

Freshman Year			Sophomore Year		
	F	S		F	S
I. E. 120, 125	2	2	I. E. 221, 226	5	5
I. E. 121, 126	3	3	I. E. 222		3
I. E. 130		2	I. E. 335, 227	2	3
I. E. 196, 197	2	2	Physics 105, 106	3	3
Drawing 110, 111	2	2	Electives	5	2
English 111, 112	3	3	Religion	2	2
Physical education	$\frac{1}{2}$	$\frac{1}{2}$			
Health 130		2	Total Hours	17	18
History 170	3				
Religion	2	2			
E. T. 100	1				
Total Hours	18½	18½			

GENEALOGICAL RESEARCH TECHNOLOGY

Adviser: E. C. Jeppsen

With the increasing interest in genealogy, many technicians and specialists are needed to do genealogical research. Because of the shortage of professional help there is a long waiting list of work to be done. The standards of completeness and accuracy required in genealogical research can best be met through adequate and careful training. This points out the need for competently trained leaders and instructors in genealogical research for the various stakes and wards of the Church. To meet this need, students might consider genealogy as their minor, if approved by their major department.

Competent research workers are a great asset in developing individual genealogies, and genealogical research technicians are needed by private groups and organizations. Also, genealogical research is being done in the libraries of most states and larger cities, as well as national libraries, creating potential employment for trained genealogists and research workers. The need is increasing rapidly, qualified genealogical research technicians will continue to be in great demand.

The following two-year program is designed to prepare genealogical technicians to meet this need.

Freshman Year			Sophomore Year		
	F	S		F	S
Genealogy 103	3		Genealogy 220, 221**	3	3
Genealogy 110, 111	3	3	Genealogy 295		8
Theology 361, 362	2	2	History*	3	
Language	4	4	Geography		3
English 111, 112	3	3	B.E.O.M. 101	2	
Physical education	1½	1½	Instruction 406	2	
Health 130		2	Electives	4	
Religion	2	2	Religion	2	2
Total Hours	17½	16½	Total Hours	16	16

*In area of specialization.

**Or Genealogy 230 and 231.

Genealogical Research Technology

Lower Division Courses

- 103 (313x). Research Procedures.** (3:3:0) F.S. Jones
 A basic course in research procedures, analysis of pedigree problems, and the evaluation of record evidences.
- 110 (314x, 314xa). American Genealogical Research I.** (3:3:0) F. Prerequisite: Genealogy 103 (may be taken concurrently). Jones
 Sources available for genealogical research in America: what sources exist, where they are available, what genealogical information they contain, and how they can be related to scientific methods of obtaining and proving ancestral information.
- 111 (314xa, 314xb). American Genealogical Research II.** (3:3:0) S. Prerequisite: Genealogy 110. Jones
 A further study of the sources: their limitations, their relationship one with another, and how they are integrated into actual research programs. A number of case files are studied and assignment exercises are based on individual pedigrees.
- 220 (315x). Genealogical Research in England and Wales I.** (3:3:0) F. Prerequisite: Genealogy 103. Staff
 Economic and social background, traditions, early L.D.S. Church records,

civil registration, census returns, parish administration, parish registers, reading early English handwriting, bishop's transcripts, marriage licenses, nonconformist records, exercises on the practical application of the sources discussed.

- 221 (New). Genealogical Research in England and Wales II.** (3:3:0) S. Pre-requisite: Genealogy 220. Staff

Probate records, military records, apprentice records, freeman's records, lay subsidies, Inquisitions Post Mortem, Feet of Fines, Manor Court Rolls, directories, Chancery Proceedings, records of early schools and universities, Quarter Sessions records, Visitations, poll books, exercises on the practical application of the sources discussed.

- 230 (316, 316a). Danish Ancestral Research I.** (3:3:0) F. Prerequisite: Genealogy 103. Stevenson

Genealogical records and their use to determine the Danish ancestral home of the immigrant to the U.S.A. Records of Danish origin and of genealogical value, including parish registers and census records are studied.

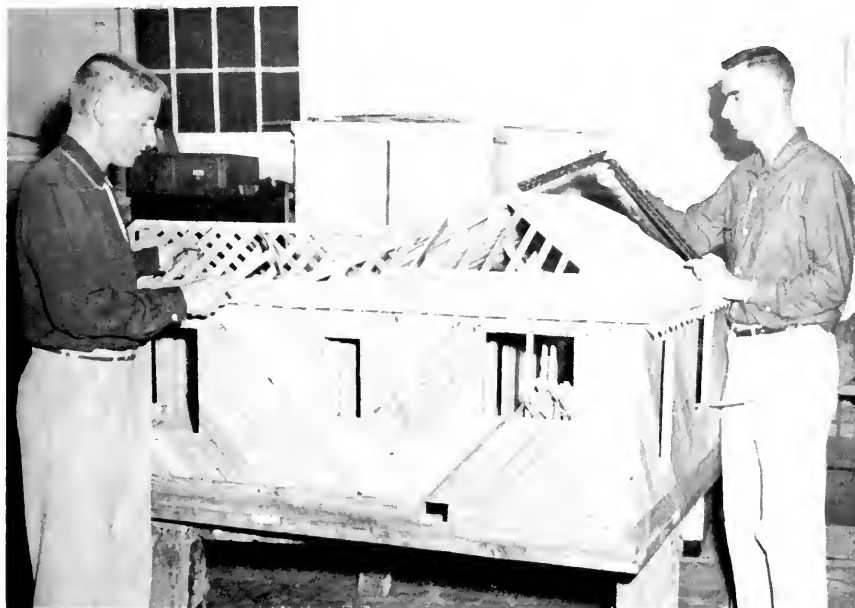
- 231 (316b, 316c). Danish Ancestral Research II.** (3:3:0) S. Prerequisite: Genealogy 230. Stevenson

Military and naval levying rolls of Denmark; an introduction to Danish probate records, land records, tax lists, civil marriages, vaccination lists, military records, and ecclesiastical sources.

- 295 (New). Applied Research Seminar.** (4-8:0:20-40) S.Su. Prerequisites: Genealogy 111, 221, or 231. Staff

Basic practice in research procedure in the L.D.S. Genealogical Library under direct supervision of competent and experienced staff. Students will use all library facilities* in completing research assignments.

*Library facilities: Present research facilities at the Genealogical Society include, among other items, over 65,000 volumes of genealogical books, 150 microfilm reading machines, and 260,000 rolls of microfilm, which is equivalent to 1,500,000 volumes of genealogical records, or 400,000,000 pages.



Theology and Church Administration

Professors: Belnap, Done, Ludlow.

Associate Professor: Riddle.

Assistant Professors: Turner (chairman, 220 S), Bankhead, Doxey, Madsen, Pearson.

Instructor: Bennett.

Courses in the Department of Theology and Church Administration may be applied toward the religion requirements of the University. An undergraduate major or minor is **not** offered in this department.

THEOLOGY

Lower Division Courses

- 130, 131 (131, 132 in 60-61; 104, 105, 106 in 59-60). **The Gospel in Principle and Practice.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Staff
A consideration of the basic principles of the gospel of Jesus Christ in the light of the practical needs and problems of today's youth.
- 132, 133 (232, 233 in 60-61; Ch. Adm. 141, 142, 143 in 59-60). **Missionary Approach to the Gospel.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Bankhead, Ludlow, Pearson, Ricks
Recommended for students contemplating an L.D.S. mission. Concerned with procedures used in explaining the restored gospel of Jesus Christ to friends and investigators.
- 234, 235 (New). **Missionary Approach to the Gospel in French.** (2:2:0 ea.) F.S. (G-R) Prerequisite: one year of French or equivalent. Lee
Consideration of the doctrines, scriptures, and techniques of effective missionary work for the L.D.S. Church.
- 236, 237 (New). **Missionary Approach to the Gospel in German.** (2:2:0 ea.) F.S. (G-R) Prerequisite: one year of German or equivalent. Watkins
Consideration of the doctrines, scriptures, and techniques of effective missionary work for the L.D.S. Church.
- 238, 239 (Spanish 301, 302, 303). **Missionary Approach to the Gospel in Spanish.** (2:2:0 ea.) F.S. (G-R) Prerequisite: one year of Spanish or equivalent. Hansen
Consideration of the doctrines, scriptures, and techniques of effective missionary work for the L.D.S. Church.

Upper Division Courses

- 331, 332 (301, 302, 303). **Analysis of L.D.S. Teachings.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Done, Doxey, Turner
Distinctive doctrines and principles of the restored gospel of Jesus Christ.
- 438 (332). **Your Religious Problems.** (2:2:0) F.S.Su. (G-R) Belnap
Consideration of problems pertaining to the individual student.

Advanced Undergraduate or Graduate Courses

- 530 (New). **L.D.S. Theology.** (2:2:0) F.S.Su. Riddle, Turner
An advanced course for those desirous of exploring major theological and philosophical concepts of Mormonism in depth.
- 535 (325). **Problems of Science and Religion.** (2:2:0) F.S.Su. Nielsen
Consideration of certain concepts of religion in the light of modern science.

CHURCH ADMINISTRATION

Upper Division Courses

- 361 (317). **Genealogy.** (2:2:0) F.S.Su. Home Study also. (G-R) Bennett
An elementary course in the purpose and techniques of genealogical research and an investigation of the rich sources now available.
- 362 (318). **Genealogy.** (2:2:0) F.S.Su. Home Study also. (G-R) Prerequisite: Church Administration 361 or consent of instructor. Bennett
Practice in analyzing and obtaining solutions of actual pedigree problems, and determining when a connection is really proved.
- 365 (Youth Leadership 377). **Applying Gospel Principles in Scouting.** (2:2:0) F.S. (G-R) Packer
Deals with the role of scouting in the L.D.S. Church and how gospel principles may be applied in that program.
- 460 (301, 311). **Priesthood, Church Government, and Welfare.** (2:2:0) F.S.Su. (G-R). Ballif, Clark, Doxey
Powers, authority, and functions of the priesthood and its role in Church government are considered in addition to the major historical, economic, and spiritual aspects of the L.D.S. Welfare Program.



Youth Leadership

Associate Professor: Packer (chairman, 215 SFH).

Scouting has become an important factor in the development of the self-reliant and spiritual activities and moral appreciations of American youth. Its universal acceptance by the institutions of our society has created for it a singular place in our social structure, and has made it a significant supplement to the home, church, and community. An early recognition of its possibilities led the L.D.S. Church authorities to adopt Scouting, and Brigham Young University has created, within the College of Physical Education, a new department providing for an unusual area of training and development in this field.

The Department of Youth Leadership offers a four-year program leading to a Bachelor of Science degree.

The objective of the department is twofold: (1) to train college men for career opportunities in youth leadership, particularly Scouting. Preparatory work is given to make candidates eligible for acceptance by the Division of Personnel of the National Council of the Boy Scouts of America for vocational employment; and (2) to train college men and women in the basic principles and skills of Scouting to the end that they can better serve their Church and community by rendering skilled volunteer direction to the youth of the Church and others who may come under their influence.

General Education

See the Student Academic Services section of this catalog for courses which fill prescribed areas of general education. Youth Leadership majors are encouraged to consult with their adviser as to which general education courses are most appropriately related to career opportunities in this field.

Requirements for Youth Leadership Major

The following courses should be taken by the student majoring in Youth Leadership: Youth Leadership 172, 173, 174, 275, 301, 302, 305, 306, 312, 332, 410, 490, 491, 492. Consultation with the major's adviser may suggest the necessity of required training in Health Education 121 and 325; Physical Education 164 and 165; and Recreation 337 or 387, and 502 or 503.

The careful and early selection of a minor by the youth leadership major will provide significant career preparation. A minor in any of the following areas will prove advantageous: recreation, business administration, sociology, speech, journalism, business education and office management, and educational instruction.

Requirements for Youth Leadership Minor

Students minoring in youth leadership should take fourteen hours from the following courses: Youth Leadership 172, 173, 174, 305, 312, 410, 490, 491, 492, and Church Administration 365.

Elective Courses

To broaden the preparation of the youth leadership major or minor the department is prepared to recommend a list of elective courses suggested from a survey made of successful career men. These courses are related to the areas of business, personnel guidance, office management, religious education, speech, journalism, sociology, psychology, recreation, public relations, and educational instruction.

Lower Division Courses

- 172 (372). Cub Leadership.** (2:1:2) S. Packer
Designed to teach the organization, administration, and purpose of Cub Scouting as a basic experience of the American home. Techniques, skills, and methods of den and pack operation are explored through lecture, demonstration, and laboratory observation and participation.
- 173 (373). Boy Scout Leadership.** (2:1:2) F.S. Packer
Designed to teach basic principles of youth leadership and their application to individual and group situations. The acquisition of skills and techniques calculated to command respect and admiration of boys in classroom or activity situations is emphasized. Laboratory opportunities are provided through sponsoring institutions of the Utah National Parks Council.
- 174 (374). Explorer Leadership.** (2:1:2) S. Packer
Arranges to bring to students the latest techniques in working with young men 14-17 years of age. Particular attention is given to the Explorer Program and how the sponsoring institution may use it to further standards of character and citizenship. Laboratory opportunities are provided through sponsoring institutions of the Utah National Parks Council.
- 178 (New). Guide Patrol and Den Mother Leadership.** (2:1:2) S. Packer
Designed primarily for women interested in skills and techniques that have application to youth leadership from age 8-12. Particular attention is given to simple handicrafts, outdoor skills, and group discipline practices that may be applied to Primary Guide and Trekker leadership. Laboratory experiences are featured. Men may register for this course.
- 275 (375). Program Building.** (2:2:0) F. Packer
Explores the recommended methods of program planning on a unit level and develops laboratory situations for a practical application of these methods in Cubbing, Scouting, and Exploring.

Upper Division Courses

- 301 (301). National Camp School.** (1:lecture and lab in an organized camp situation for one full week) F.Su. National Staff BSA
Theory and application of principles of camp administration, camp aquatics, and camp program. Taught by National Council (Boy Scouts of America) at a selected local council camp. Recommended for youth leadership majors only.
- 302 (302). Summer Camp Administration.** (1:two weeks lecture and lab at an organized local council camp) F.Su. Local Council Staff
Provides an actual administrative experience as a staff member of a local council summer camp. The course may be extended to additional summer employment for some students. Selection of camps arranged for by the department. Required of youth leadership majors only.
- 312 (311, 312). District Committee and Commissioner Service.** (2:2:2) S. Packer
Combines a study of the operation and function of a district committee of the local council and the duties and techniques associated to the service of commissioners to council, district, and institution. Laboratory opportunities are provided by the Utah National Parks Council.
- 332 (332). Scouting Sponsors and Public Relations.** (1:1:0) F. Offered 1962-63 and alternate years. Packer
Institutional acceptance of Scouting as a major youth program in America. Defines the relationships of the major religious and civic sponsors of Scouting to the Boy Scouts of America and explores the public relations program of Scouting on the local and national council levels.
- 410 (310). National and Local Council History and Development.** (2:2:0) S. Offered 1962-63 and alternate years. Packer
Traces the evolution of the program of Scouting in America and defines

the organization, functions, and services of the national council to the local council; and the organization, functions, and services of the local council to the sponsoring institution and the boy.

- 490 (390). Field Activity Course.** (1:1:0) F. Offered 1962-63 and alternate years. Packer

A study and laboratory experience in traditional council events designed to win public acclaim, enrich program experience, and develop financial support for the local council.

- 491 (391). Conference Planning Techniques.** (1:1:0) F. Offered 1962-63 and alternate years. Packer

Theory and practice of planning conferences and various techniques of pre-conference involvement.

- 492 (New). Seminar in Research Problems and Program Trends.** (1:1:0) F.S. Packer

This course also counts in youth leadership:

Theology 365. Applying Gospel Principles in Scouting. (2:2:0)



Zoology and Entomology

Professors: Hayward (chairman, 263 B), V. Tanner.

Associate Professors: Allen, Beck, Chapman, Frost, W. Tanner.

Assistant Professors: Allred, Murphy, Wood.

Instructor: Simmons.

Zoology is the basic animal science. The courses offered in this department are designed to meet the needs of the students of the University in the following ways:

1. provide courses suitable to the General Education requirements in the biological sciences
2. contribute toward the training of prospective teachers in the biological sciences
3. provide basic and advanced training for persons wishing to major and obtain a bachelor's, master's or doctor's degree in zoology
4. offer service courses for the benefit of the students majoring in other departments who need supporting work in the zoological sciences
5. furnish courses required in pre-professional work toward medicine, dentistry, and other medical sciences.

Requirements for a Major

It is desirable that students select a major at the earliest possible date in their college program. A candidate for a bachelor's degree who elects to major in the Department of Zoology and Entomology will be assigned an adviser who will assist him in the organization of his entire program. The course of study must include (1) the General Education requirements of the University, (2) the general departmental requirements, and (3) one of the optional sequences in zoology depending upon the student's special interests. Any modification of these requirements must be approved by the chairman of the department.

The general departmental requirements for all majors in zoology include courses 105, 176, or 376, 212, 213 or 363, 385, 496, and 497. Prospective majors who have completed a full year of biology in high school may omit Zoology 105 provided they pass an examination dealing with the general principles of biology.

Optional Sequences

Natural History: This option is intended for students interested in the natural history, ecology, and geographical distribution of mammals, birds, reptiles, fishes, and invertebrates. Such training is preparatory for careers in game management, museum services, biological surveys, and fresh water or marine biology as they apply to the National Park Service, Fish and Wildlife Service, and other agencies. Courses recommended for this sequence are 230, 365, 372, 451, and additional hours selected from 332, 343, 345, 346, 347, 357, 363, 417, and 421 with the approval of the departmental adviser. Supporting courses in botany, the physical sciences, and mathematics should be included.

Anatomy and Experimental Zoology: This division is designed for students who plan advanced training in such fields as comparative anatomy, histology, physiology, genetics, radiation biology, and embryology. This training may lead toward university teaching, research, and medical sciences. The following courses are recommended: 363, 365, 370, 373, and at least 3 hours selected from 230, 417, 561, 573, and 578 with the approval of the departmental adviser. Supporting courses in bacteriology, botany, chemistry, physics, and mathematics should also be taken.

Parasitology and Epidemiology: This option is designed for students who plan to work in such fields as helminthology, medical arthropodology, and protozoology. This training may be applied to public health services, institutional research, and private practice. The following courses are recommended: 230, 365, 417, 421, 433, and at least 6 hours selected from 330, 332, 345, 346, 347, 363, 370, 372, and 451 with the approval of the departmental adviser. Supporting courses should be selected in bacteriology, botany, chemistry, physics, and mathematics.

Entomology: This option is designed for students planning to work in insect taxonomy, morphology, natural history, and medical, agricultural, or other aspects of applied entomology. Career opportunities are available in teaching, research, industrial and governmental organizations, or as technicians in museums, quarantine inspection, insect control, and other special services. Recommended courses for this option are as follows: 230, 330, 332, 334, 433, and at least 4 hours selected from 363, 365, 370, 372, 421, and 451 with the approval of the departmental adviser. Supporting courses in bacteriology, botany, chemistry, and mathematics should also be taken.

Pre-medical and pre-dental students may elect any of the optional sequences.

Major and Minor for Secondary Teachers

The preparation and certification of teachers in biology in secondary schools is a cooperative program between the departments dealing with the biological sciences and the College of Education. Prospective biology teachers should complete either a zoology major and a botany minor, or a botany major and zoology minor.

Students who have had a year of high school biology and who pass the qualifying examination in zoology for beginning students may select three other hours of zoology in place of Zoology 105 to bring the total credit up to 32 hours for the major and 17 hours for the minor.

32-hour list (Major): 105, 212, 213 or 363, 230, 261, 372, 376, 451; and sufficient hours selected from 343 or 345 and 346 or 347 to bring the total to 32 hours.

17-hour list (Minor): 105, 230, 261, 343 or 345; 346 or 347; and 372.

Suggestions for a Minor

A minor in zoology and entomology should include at least the following courses: 105, 176, 212, 213, and 230.

Students who have had a year of high school biology and who pass the qualifying examination in zoology for beginning students may select three other hours of zoology in place of Zoology 105.

Requirements for Graduate Degrees

A prospective graduate major is expected to satisfy all the general requirements for advanced degrees outlined by the Graduate School. Before or during the first semester in which the student is officially admitted to graduate study in the department, the departmental Graduate Standards Committee will administer an examination designed to explore his academic background and aptitude. Recommendations to assure adequate depth and breadth of training based on an evaluation of this examination and his undergraduate record of courses will be used by the advisory committee in planning his program of graduate study. Deviations from these recommendations must be approved by the Graduate Standards Committee. Prior to the selection and approval of the advisory committee, the Graduate Standards Committee will direct the student's program. The responsibility for complying with all regulations of the Graduate School and of the department rests with the student.

The Department of Zoology and Entomology offers work leading toward the master's degree and the Doctor of Philosophy degree in zoology or in ento-

mology. A student may major in either of these fields. Either one or two minors may be selected, and it is recommended that at least one of the minors be chosen from a department other than Zoology and Entomology.

A student may do research in specific areas in zoology or in entomology. In zoology advanced training and research is available in ecology, embryology, genetics, herpetology, histology, ichthyology, mammalogy, invertebrate zoology, ornithology, parasitology, physiology, radiation biology, and vertebrate anatomy. In entomology, advanced training and research may be pursued in general entomology, taxonomy, morphology, ecology, and medical entomology.

Master's Degree

Master of Science and Master of Arts degrees are offered by the Department of Zoology and Entomology. The general requirements indicated above apply to students seeking these degrees. Master's degree candidates are also expected to take Zoology 696 and 697 in addition to other courses specified by their special committee.

Doctor of Philosophy Degree

Required courses for each candidate for this degree include the following: Zoology 510, 540, 555, 578, 610, 680, 696, and 697. A comprehensive preliminary examination, oral and written, covering all areas of basic zoology or entomology with emphasis upon the major and minor fields must be successfully completed before advancement to candidacy. This examination normally will be taken approximately one academic year prior to granting of the degree. The candidate will be expected to spend a summer term or equivalent away from Brigham Young University at an approved laboratory or field station.

Lower Division Courses

- 105 (105). Animal Biology.** (3:2:3) F.S.Su. (G-BS) Staff
A basic principles course in animal biology.
- 176 (176). Heredity.** (3:3:0) F.S.Su. (G-BS) Prerequisite: Zoology 105, or Botany 101, or equivalent. Allen
Principles of inheritance and eugenics. Designed for students not majoring in biological science. Biology majors should take course 376.
- 212 (212). Invertebrate Zoology.** (4:1:6) F.S. (G-BS) Prerequisite: Zoology 105 or equivalent. Beck
- 213 (213). Vertebrate Zoology.** (4:2:4) F.S. (G-BS) Prerequisite: Zoology 105 or equivalent. Hayward
A basic course in the structure, classification, and natural history of the vertebrates.
- 230 (230). Introductory Entomology.** (5:3:4) F.S. Prerequisite: Zoology 105 or equivalent. V. Tanner
The beginning course in the structure, classification, and life histories of the classes of arthropods.
- 261 (164, 261). Human Anatomy and Physiology.** (4:3:2) F.S. (G-BS) Prerequisite: Zoology 105 or equivalent. Chapman
A basic course in tissue and organ structure and function.
- 264 (264). Human Anatomy and Physiology.** (5:3:4) F. (G-BS) Prerequisite: Zoology 105 or equivalent. Chapman
Designed especially for students of physical education and related subjects.

Upper Division Courses

- 315 (315). Natural History.** (3:2:2) S. (G-BS) Prerequisite: Zoology 105, or Botany 101, or equivalent. Frost
Designed for non-biology majors and dealing with common animals.

- 330 (330, 630). **Insect Morphology.** (5:2:6) F. Prerequisite: Zoology 230. Wood
An introduction to the principles of insect morphology. Both external and internal anatomy are studied.
- 332 (332). **Insect Classification.** (4:1:6) S. Prerequisite: Zoology 230. Wood
The basic principles of animal taxonomy with special emphasis on insects. Students are advised to consult the instructor and begin collecting insects prior to registration.
- 334 (334). **Economic Entomology.** (3:2:2) F. Prerequisite: Zoology 105 or equivalent. Wood
Life histories and control of insect pests, exclusive of medically important forms.
- 343 (343). **Ichthyology.** (2:0:4) S. Prerequisite: Zoology 213. V. Tanner
The anatomy, classification, and distribution of the fishes of the Great Basin.
- 345 (345). **Herpetology.** (2:0:4) S. Prerequisite: Zoology 213. W. Tanner
The classification, distribution, and natural history of reptiles and amphibians.
- 346 (346). **Ornithology.** (2:0:4) S. Prerequisite: Zoology 213. Hayward
The classification, field and laboratory identification, and natural history of birds.
- 347 (347). **Mammalogy.** (2:0:4) F. Prerequisite: Zoology 213. Hayward
The classification, field and laboratory identification, and natural history of mammals.
- 357 (357). **Wildlife Conservation.** (2:2:0) F. Frost
Conservation of natural resources particularly as they relate to animals.
- 363 (363). **Comparative Vertebrate Anatomy.** (4:2:4) S. Prerequisite: Zoology 213. W. Tanner
A comparison of the body systems of the major vertebrate groups from the fishes through the mammals.
- 365 (365). **Animal Physiology.** (4:2:4) S. Prerequisites: Zoology 213 and Chemistry 111. Chapman
The functions of the body systems of animals.
- 370 (370, 371). **Vertebrate Histology.** (3:1:4) S. Prerequisite: Zoology 213. Chapman
Microscopic studies of the tissues and organs of vertebrates and practice in the preparation of microscope slides.
- 372 (372). **Biological Techniques.** (1:0:3) F. Allred
Designed to help prospective teachers and biologists in the techniques of preparing biological specimens and materials for demonstration or study.
- 373 (373). **Vertebrate Embryology.** (4:2:4) F. Prerequisite: Zoology 213. Allen
Development of the body systems of vertebrates with special emphasis on the frog, chick, and pig.
- 376 (376). **Genetics.** (4:3:3) F. (G-BS) Prerequisite: Zoology 105 or Botany 101, or equivalent. Allen
An introductory course designed for majors in biological science.
- 385 (385). **History of Biology.** (2:2:0) F. V. Tanner
The development of biological thought from the Grecian period to the present.
- 417 (417). **Parasitology.** (3:1:4) F. Prerequisite: Zoology 105 or equivalent. W. Tanner
Animals that are internal parasites of man and domestic animals.

- 421 (321). **Arthropodology.** (2:0:6) F. Prerequisite: Zoology 230. Allred
Structure, identification, and natural history of local arthropods other than insects.
- 433 (333). **Medical Entomology.** (2:0:4) S. Prerequisite: Zoology 230. Allred
Arthropods that attack man and domestic animals and transmit pathogenic organisms and other parasites.
- 451 (550, 551). **Animal Ecology.** (3:2:3) S. Prerequisites: Zoology 212, 213, 230; recommended prerequisites: Botany 110 and Zoology 421. Murphy
The principles of ecology as applied particularly to animals in natural communities. Saturday field trips.
- 496, 497 (496, 497, 498). **Senior Year Seminar.** (1:1:0) F.S. Staff
A review of current trends and concepts in zoology.

Advanced Undergraduate or Graduate Courses

- 510 (510). **Zoological Literature.** (2:1:2) S. Wood
An introduction to the literature of zoology designed to prepare the student for research and thesis writing.
- 524 (524). **Acarology.** (2:0:6) F. Offered 1962-63 and alternate years. Prerequisite: Zoology 421. Allred
- 531 (631). **Insect Physiology.** (2:1:2) S. Offered alternate years. Wood
- 533 (533). **Field Entomology.** (2:0:4) Su. Prerequisite: consent of instructor. Beck, Wood
- 538 (538). **Immature Insects.** (2:0:4) S. V. Tanner
- 540 (540). **Aquatic Zoology.** (2:2:3) F. Prerequisites: Zoology 451, consent of instructor. Murphy
- 555 (655). **Principles of Zoogeography.** (2:2:0) F. W. Tanner
- 561 (561). **Advanced Vertebrate Anatomy.** (3:1:4) F. Prerequisite: Zoology 363. Chapman
- 573 (573). **Experimental Embryology.** (2:1:3) Arr. Offered alternate years. Prerequisite: Zoology 373. Allen
- 576 (576). **Advanced Genetics.** (2:2:0) F. Offered 1962-63 and alternate years. Prerequisite: Zoology or Botany 376. Allen
- 578 (578). **Radiation Biology.** (2:2:0) S. Offered alternate years. Prerequisites: Chemistry 112, Physics 202, Zoology 365. Allen
- 579 (579). **Radiation Biology Laboratory.** (1:0:3) S. Offered alternate years. Prerequisite: concurrent registration in Zoology 578. Allen
- 591 (591). **Special Problems in Zoology.** (1-2:Arr.:Arr.) F.S.Su. Staff

Graduate Courses

- 610 (610). **Systematic Zoology.** (2:1:2) F. V. Tanner
- 612 (512). **Advanced Invertebrate Zoology.** (2:0:4) F. Prerequisite: Zoology 540. Beck
- 625 (625). **Advanced Medical Entomology.** (2:0:4) S. Prerequisites: Zoology 332, 346, 347. Beck
- 628 (628). **Ecology of Parasitic Arthropods.** (2:1:3) S. Offered alternate years. Prerequisite: Zoology 433, 451. Allred
- 639 (639). **History of Entomology.** (1:1:0) F. V. Tanner

- 643 (643). **Advanced Ichthyology.** (2:1:2) F. Offered alternate years. Pre-requisite: Zoology 343. V. Tanner
- 645 (645). **Advanced Herpetology.** (2:1:2) S. Offered alternate years. Pre-requisite: Zoology 345. W. Tanner
- 646 (New). **Advanced Topics in Ornithology and Mammalogy.** (2:2:0) F. Offered alternate years. Prerequisites: Zoology 346, 347. Hayward
- 650 (New). **Animal Communities.** (2:2:0) S. Offered alternate years. Pre-requisite: Zoology 451. Murphy
- 662 (662, 663). **Advanced Physiology.** (2:1:2) S. Prerequisite: Zoology 365. Chapman
- 673 (673). **Advanced Embryology.** (2:2:0) F. Offered 1962-63 and alternate years. Allen
- 680 (New). **Theoretical Zoology.** (2:2:0) S. Prerequisite: consent of instructor. W. Tanner
- 691 (690, 691, 692). **Research.** (1-4:Arr.:Arr.) F.S.Su. Staff
- 696, 697 (696, 697). **Graduate Seminar.** (1:1:0 ea.) F.S. Staff
- 699 (699). **Thesis for Master's Degree.** (2-4:Arr.:Arr.) F.S.Su. Staff
- 797 (New). **Research.** (1-4:Arr.:Arr.) F.S.Su. Staff
- 799 (New). **Dissertation for Ph.D. Degree.** (1-4:Arr.:Arr.) F.S.Su. Staff



Adult Education and Extension Services

Extension Representative in the Administrative Council: Harvey L. Taylor

Office of the Dean: Harold Glen Clark, dean; Phileon B. Robinson, Jr., assistant to dean; Richard H. Henstrom, academic and center coordinator

Department of Community Education: D. Chris Poulos, chairman; W. Grant Lee, supervisor, Community Credit Courses and Telecourses; Rulon B. Ashcroft, supervisor, Community Lectures and Courses

Extension Publications: William Leach, chairman

Department of Home Study: Lula Clegg, chairman

Department of Travel Study: Robert C. Taylor, chairman

B.Y.U.-Los Angeles Adult Education Center: David N. Chalk, chairman; Wayne Shute, supervisor, Special Programs

B.Y.U.-Ogden Adult Education Center: George S. Haslam, chairman

B.Y.U.-Provo Campus Adult Education Center: Robert H. Teichert, acting chairman; Ilene Webb, supervisor, Evening School; Richard Hirtzel, supervisor, Special Courses and Conferences

B.Y.U.-Ricks Adult Education Center: J. Kenneth Thatcher, chairman; Seth H. Bills, supervisor, B.Y.U.-Ricks Campus Office

B.Y.U.-Salt Lake Adult Education Center: Lynn M. Hilton, chairman; Roscoe A. Grover, supervisor, Special Programs and Forum; Russell MacDonald, supervisor, Out-of-Center Classes

Department of Audio-Visual Communication: LeRoy R. Lindeman, chairman; Evan J. Memmott, educational training supervisor; Lee Miller, production supervisor; Lynn Howarth, circulation supervisor; Lucile Long, library supervisor

GENERAL INFORMATION

The purpose of the Extension Services is to bring the educational programs and services of the regular University day school to adults who are not now receiving them. It was called the Extension Division when it was established in 1921. At that time its program combined publicity, off-campus programs, lectures, and community services with the more formal classroom offerings and credit courses both by correspondence and lecture.

Some of these earlier functions have been assumed, in part, by special committees or departments in the University. New services, such as motion pictures and audio-visual aids, have been expanded or added to the Extension Services. Full-time employees have replaced those who formerly did extension work during their off-time hours. The extent of the territory served has increased. Bulletins of information on evening school courses, home study subjects, lectures, and publications are available upon request.

Many teachers of the courses scheduled through the Extension Services are chosen from the regular B.Y.U. faculty. In addition, a special part-time off-

campus faculty is available and is listed in the Special Instructors or Lecturers section of this catalog.

WHO MAY ENROLL IN ADULT EDUCATION CLASSES

Anyone having the proper background may register for noncredit courses. The purpose of adult education is to serve the needs of adult students.

Non-high school graduates should not register for university credit courses without prior approval; however, all persons over nineteen years of age are eligible to register for such courses.

Undergraduate students may not register for graduate classes.

Acceptance as a student in an extension course does not mean that the individual concerned has been accepted by Brigham Young University or any other university on a degree-seeking basis. It is the responsibility of each student to gain admission to the university of his choice as a degree-seeking student, through the normal procedures listed in the university catalog. At B.Y.U. this may be accomplished by contacting the Office of Admissions and Records. All credit received prior to the student's formal admission will then be evaluated.

The Adult Education and Extension Services at B.Y.U. takes no responsibility for the acceptance of a student's credit courses toward a degree or for accreditation purposes of any nature at any university. Clearing these courses for accreditation of any kind is the responsibility of the student. Such clearance should be made before the student enrolls in the course.

No student who has been suspended from a university will be allowed to register for credit courses. However, a suspended student upon proper representation may be accepted as a Home Study student. Students registering under false pretenses will forfeit any credit received.

COMMUNITY EDUCATION

The Community Education Department of the Adult Education and Extension Services has sections which service those areas not already served by a B.Y.U. adult education center.

Descriptions of these sections are listed below. More detailed information and catalogs may be obtained by writing Community Education, Adult Education and Extension Services, Brigham Young University, Provo, Utah.

Community Credit. A request for a credit course is filled by the scheduling of a University teacher to travel to an off-campus location to conduct the course. Credit courses provide regular Brigham Young University credit and may be used to renew a teaching certificate, to apply toward a degree, or to broaden one's intellectual and spiritual horizons. (Ordinarily such classes meet one evening a week for eleven weeks. A wide choice of courses is available. Courses listed in the body of this catalog, subject to the approval of the dean and department chairman concerned, may be scheduled off campus.)

Telecourses. The Brigham Young University provides courses through educational television. The school has sponsored several courses over both educational and commercial television facilities. It is hoped that the general public will indicate their interest in B.Y.U. telecourses for credit and non-credit. Further information is available upon request.

Community Lectures and Courses. The Community Lectures and Courses section of the Adult Education and Extension Services was created to present non-credit programs off-campus—lecture series, institutes, classes appealing to particular interest groups, conferences, forums, and special promotions. The varied curriculum includes programs in religion, the fine arts, engineering, athletics, and many specialized fields. Since this section is on a non-credit basis, its program need not be concerned specifically with filling requirements, but may be geared to the special needs and desires of the groups. Presentations are in-

formative and informal, but of high academic quality. Persons desiring courses or lectures to be presented in their locale may initiate them by contacting this office.

Community Leadership Weeks. The leadership week held annually on the Brigham Young University campus has gained a nationwide reputation. As the University expands its services, there is the possibility that numerous leadership weeks may be held in various areas where there is a demand for the leadership week and where the Church population is sufficient to support this program. This department is presently in charge of the Arizona and Northern California leadership week programs.

EXTENSION PUBLICATIONS

The Extension Publications Department produces numerous lectures, pamphlets, and other material for distribution to students, faculty, alumni, and patrons of the University. The goal of this service is adult education through the printed page. These materials are sold at cost. The following categories will indicate the kinds of publications available:

Speeches: Most B.Y.U. devotional talks given by General Authorities and other Church leaders and forum addresses given by notable guests of the University, usually men of national or world-wide fame, are reproduced in mimeographed form. At the end of each school year, complete bound sets of the assembly speeches may be purchased. These are particularly useful in ward and home libraries.

Leadership Week Lectures: Numerous publications are available which are based on the great variety of subjects discussed in the leadership weeks held on the campus and in other areas. Missionaries, teachers in Church auxiliaries, speakers, and students of the scriptures find these publications stimulating because of the timely stories, interpretations of current events, faith-promoting experiences, and supplementary instructional material which they contain.

Special Lecture Series: During each school year, many lectures are given which would be of interest outside of the classrooms or limited meetings in which they originate. Several of these lectures are available in mimeographed form. Examples of those available are "Know Your Doctrine and Covenants," "The Trial of the Stick of Joseph," "Eden to Egypt," and "Heroines of the Church."

Pamphlets: Printed booklets are now available in the following six series. Only a brief example of each series is indicated:

Religious Life Series: "Parents and Children—Look to Your Homes," by President David O. McKay, and "Marriage—An Everlasting Covenant," by Elder Harold B. Lee.

Apostle Speaks to Youth Series: "Chastity," by Elder Mark E. Petersen, and "Tragedy or Destiny," by Elder Spencer W. Kimball.

Word of Wisdom Series: "Tobacco and Cancer," by Dr. Alton Ochsner. Others are to appear in the future.

Family Life Series: "Family Fun With Games," by Israel Heaton, and "What to do When . . .," by Jean Kunz.

General Interest Pamphlets: "Principles and Practices of Paying Tithing," by President Ernest L. Wilkinson, and "Food and Savings for Survival," by Presidency, East Sharon Stake High Priests Quorum.

Public Affairs Pamphlets: A great many publications have been obtained from other sources and are made available through this department. They pertain to human development and family life. More than sixty titles are included in the general subject areas of expectant parents, infancy, pre-school children, nursery school, the grade school years, adolescence, courtship and marriage, family life, sex education, mental health, and basic viewpoints in child guidance.

Books: Two books are currently sold through this department: "Our Leaders Speak," a compilation of eternal truths spoken at Brigham Young University by several of the General Authorities, and "A New Witness for Christ in America," Vol. II (Revised), by Francis W. Kirkham, wherein attempts to prove the **Book of Mormon** man-made are analyzed and answered.

For a free catalog listing all available publications and their prices, write to Extension Publications, Brigham Young University, Provo, Utah.

HOME STUDY

Adult Education and Extension Services offers home study courses to aid in widening the educational horizons of the many people who cannot take college work in residence.

What is it? Home study is education by mail—instruction with a personal touch.

Why Home Study? Home study is for those who cannot take courses in residence. This department provides courses required for entrance requirements, courses needed to complete high school, teacher certification, courses for those serving their country in the armed forces, or for Korean veterans who wish to maintain their entitlement, for people working in industry who wish to acquire broader culture or to improve their skills, for professional people with a desire for continued intellectual and professional progress, and for those desirous of pursuing some course for personal development and interest.

Catalog: A home study catalog is free to anyone who wishes detailed information on all courses, fees, and registration.

USAFI and Korean Veterans: Brigham Young University has been approved to offer home study courses to the men and women in the armed forces and to Korean veterans.

Gifted High School Students: College courses for gifted high school seniors are offered. The purpose of this program is to supplement the curriculum for gifted high school seniors who have the time and ability to pursue a college course during their senior high school year.

Credit: The number of credit hours of home study course work that will apply toward graduation requirements is limited to 24 semester hours.

Examinations: Examinations are required in all correspondence courses unless otherwise stipulated.

TRAVEL STUDY

B.Y.U. travel-study programs are designed for students who wish to increase their knowledge and understanding of their own nation and of other lands and peoples through purposeful, educational travel under the direction of the University. Those who participate must be properly enrolled. Adults off campus, as well as individuals on campus, may qualify as students in this program. Participants must adhere to standards of the Church of Jesus Christ of Latter-day Saints.

All of the Brigham Young University travel-study programs are non-commercial, non-profit, educational projects. They are sponsored by a University which recognizes the value of organized educational travel experience and senses the importance of broadening cultural horizons and promoting international understanding and good will.

College credit is provided to all program participants who complete the study course as outlined by the academic department which co-sponsors the travel-study program.

Anticipated B.Y.U. 1962 Summer Programs

Foreign Residence Programs

1. The English Tradition
2. French Language Study in France
3. French Language Study in Quebec
4. German Language Study in Austria
5. Spanish Language Study in Spain
6. Spanish Language Study in Mexico
7. Japanese Language and Culture Study in Japan

Traveling Seminars

1. Peoples and Cultures of Europe
 - A. South
 - B. North
 - C. Genealogy
 - D. European Highlights
 - E. Student European Program
2. Special Programs
 - A. Bible Lands
 - B. Twelfth Annual Church History Program
 - C. Hawaiian Socio-Cultural Program
 - D. 'Round the World

For the current status of each program and detailed information write to Travel Study Department, Brigham Young University, Provo, Utah.

B.Y.U. ADULT EDUCATION CENTERS

Sensing the obligation of the Church University to provide education opportunities in harmony with L.D.S. standards for persons away from Provo, the Board of Trustees has established adult education centers. These centers offer the same services of adult education to the people of the center's area, including leadership week, as those offered to people who live near Brigham Young University. There is a limit as to the amount of credit that may be earned through classes at these centers which will apply toward a bachelor's or master's degree.

B.Y.U.-Provo Campus Adult Education Center

All courses conducted on the Provo campus by the Adult Education and Extension Services are conducted through the B.Y.U.-Provo Campus Adult Education Center. Flexibility of programming is maintained to meet specific needs of adults and special groups. Business, industrial, civic, social, Church, and educational institutions are encouraged to contact this office if they desire special adult instruction. The units of this center are listed below:

Evening School. On week-day evenings, classes are conducted on campus in areas of interest to adults who desire to improve or enrich their lives through part-time education.

Regular college credit equivalent to daytime classes is given for all evening school classes. Anyone wishing to do so may take a class on a non-credit basis as an auditor.

Veterans are eligible to enroll under the G.I. Bill if they meet the eligibility requirements of the Veterans' Administration.

A class schedule of all classes offered is published each semester. These class schedules, giving detailed information about all procedures, are available free of charge upon request. Courses listed in the Evening School schedule which do not receive ten or more registrations will be cancelled. Students who have registered in cancelled classes will be notified and invited to join other classes or will be given a full refund.

At scheduled times during each registration period, trained counselors are available who will aid students in making educational and vocational plans or in working through related personal problems. There is no charge or obligation to the student for these services.

Day students may enroll in Evening School classes on their regular registration card by picking up class cards marked "Section 90." An extra fee of \$4.00 per credit hour is charged the day school student for these classes.

One dollar is charged for each change slip presented after the first week of the semester unless the action is caused by the Evening School.

Each student registered through the Extension Services who discontinues attendance at class must use the proper procedure to withdraw by coming to the Extension Center.

A pro-rated refund of tuition fees will be made to those who withdraw properly from evening classes during the first four weeks of the semester. There is no refund for withdrawals occurring after the fourth week of the semester.

Students registering for evening classes only, register from 5:00 to 9:00 p.m. on the dates announced in current schedules.

Special Courses and Conferences. This section, organized to meet the academic needs and desires of many different age and educational background groups, provides flexible, varied credit and non-credit programs on the Brigham Young University campus. It offers courses either for specific interest groups or for the public at large.

Offerings, presented on a high academic level, are informative in nature, yet informal and flexible as to content and presentation. Courses are generally six to ten weeks in length.

The instructional staff of Special Courses and Conferences is composed of members of the regular B.Y.U. faculty and other professional and academic specialists. Tuition fees vary according to the length of the course or the special expenses which may be involved. Persons representing groups which desire special courses or lectures on the B.Y.U. campus may have such courses initiated by contacting this department.

The Special Courses and Conferences section presents programs in the following categories:

Conferences. Programs which are conducted for professional groups in concentrated, intensive sessions, usually over a period of one day to one week. These groups often hold business meetings in addition to considering academic materials.

Workshops and Clinics. Programs which involve a high degree of participation and activity by registrants and which include learning of professional and avocational skills.

Special Courses. Credit or non-credit courses which do not fall into the administrative areas of regular classes or of evening school.

Lectures. Short discourses on various academic subjects, sometimes presented in a series or singly.

Seminars. Courses for groups of supervised students or professional persons doing research or advanced study.

On-Campus Leadership Week. For thirty-seven years, adults from all walks of life have spent their vacations or other spare time attending the five-day festival of learning at the Brigham Young University. All of the colleges of the University, through their faculties and off-campus consultants, provide selected educational experiences which help members of the Church and other patrons of the University become better leaders in the professions, the home, the community,

and the Church. Leadership Week is leadership training for everyone, since all in the home are leaders or potential leaders. A few of the areas of instruction are these: human relations, scientific advancements, the world of business, better teaching methods, music, drama and speech activities, teen-age problems, and handicraft arts. Instruction in genealogy, the scriptures, and religion lectures from the General Authorities and others also add greatly to the interest and value of Leadership Week. Devotional assemblies, evening entertainments, tours, lectures, demonstrations, and workshops enhance the offering of this week. A special Youth Program is included for those 12-17 years of age.

B.Y.U.-Ricks Adult Education Center

The first center to be established was at Rexburg, Idaho, in July of 1956. In January of 1959, the center headquarters were moved from Ricks College to 160 North Holmes Avenue, Idaho Falls, Idaho. A sub-center is maintained at Ricks College in Rexburg. The center provides off-campus courses, evening school, summer school, leadership week, and special programs. On November 15, 1959, a branch of the Department of Audio-Visual Communication of the Brigham Young University was established at the B.Y.U.-Ricks Center. This service is under the direction of the Rexburg office, and is one more important step in the continued expansion of the B.Y.U.-Ricks Center. The services of this center have stretched as far as Nampa, Idaho, on the west and Afton, Wyoming, on the east to offer short courses and credit classes.

B.Y.U.-Ogden Adult Education Center

To provide the people in and near Ogden with some of the advantages enjoyed by those living close to the Brigham Young University campus, the Church authorized the University to utilize the former institute building at 555-24th Street as an adult education center. The center was officially opened August 10, 1957, offering academic courses in upper division and graduate work and informal courses, lectures, programs, and a leadership week. The center draws its faculty from B.Y.U. and professionally qualified persons living in the Ogden area. Local instructors are approved by the B.Y.U. administration in the same manner used in employing regular full-time faculty members. The B.Y.U.-Ogden Leadership Week is an annual feature of this center.

B.Y.U.-Salt Lake Adult Education Center

On January 1, 1959, the building occupied formerly by the McCune School of Music and Art, 200 North Main, was opened as the third B.Y.U. Adult Education Center. Its program follows the pattern established in other centers. Courses and programs are offered in religion, genealogy, speech, history, recreation, writing, art, education, and other fields. Special programs are organized for industry, commerce, and church groups where requested. A forum assembly program was also added in the fall of 1959 with noted speakers participating. Full information may be obtained by phoning Salt Lake City, DA 2-1656. A growing community leadership program is held each year for people in the Salt Lake area.

B.Y.U.-Los Angeles Adult Education Center

The most recent adult education center was established in Los Angeles to serve the southern California area. It is located at 1012 West 36th Street. This center offers all of the major program of the other adult education departments. From the center, people in southern California may take courses for credit or non-credit, participate in a leadership week in Los Angeles, receive help and information on travel studies, home study, publications, and audio-visual materials, etc. Due to the nature of the Los Angeles population, classes are taken to various areas of the city instead of bringing students to a central location. The annual leadership is the exception to this rule, when thousands of church and civic leaders meet in a central location each year.

AUDIO-VISUAL COMMUNICATION

The Brigham Young University Audio-Visual Communication Department is one of the largest and most complete teaching materials centers in the nation.

Its purpose is to serve departments of the University, various church organizations, public schools, and industry with the finest materials for instruction that can be obtained.

To provide more efficient and effective service the Department of Audio-Visual Communication has divided its various functions into the following sections:

Circulation Section: This section provides films, filmstrips, recorded tapes, and study prints for use by Brigham Young University faculty and students, public schools, and interested individuals and groups.

The center's film rental library contains 16 mm sound motion pictures, 35 mm filmstrips, 2" x 2" color slides, and several sets of study prints. The motion pictures, filmstrips, slides, and study prints cover a wide variety of both educational and religious subjects. A few films of an entertainment nature are also available. B.Y.U. Motion Picture Production Department releases are among those films available.

The magnetic tape library has more than 2,000 titles. This includes such items as addresses given at the General Conferences of the Church of Jesus Christ of Latter-day Saints, B.Y.U. devotional assembly talks, and other important speeches given on campus. In addition, taped radio programs of an educational nature are available. Tapes may be obtained on a rental basis, or duplicated tapes may be purchased.

Production Section: This section is in turn divided into five areas: (1) graphic art work, (2) photographic, (3) public address services, (4) recording and tape duplicating services, and (5) equipment repair.

The Production Section provides these services primarily for campus departments and for use of church groups and schools. Complete art services are available including layouts and illustrations as well as the production of custom instructional materials. Research and development of teaching instructional materials for use in church groups and correlations with various lessons are also provided.

Education Training Section: The Educational Training Section provides professional assistance in the form of audio-visual workshops and classes.

Further information may be had by writing or calling the Department of Audio-Visual Communication. Catalog and supplementary bulletins listing the materials available, conditions of service, and rental rates are available.



ENROLLMENT SUMMARY 1959-60
PROVO, UTAH
AS OF AUGUST 31, 1960

College	5th Year					Men	Women	Total
	Freshman	Sophomore	Junior	Senior	Professional Graduate			
Biological and Agricultural Sciences	258	169	224	184		723	112	835
Business	348	318	388	433		1092	395	1487
Education	420	348	486	669		587	1336	1923
Family Living	237	245	193	144		20	799	819
Fine Arts	245	171	165	172		338	415	753
General	1445	588	138	75		1260	986	2246
Humanities and Social Sciences	317	320	337	401		810	565	1375
Nursing	101	47	31	31		3	207	210
Physical and Engineering Sciences	439	368	294	230	76	1373	34	1407
Physical Education	107	83	112	95		247	150	397
Graduate School					1874	1343	531	1874
Total Daytime College Students on Campus	3917	2657	2368	2434	76	7796	5530	13326**
Evening College Students on Campus						632	846	1478
Net Cumulative Total College Level								14804
B.Y.U. LABORATORY SCHOOLS								
Elementary School						110	102	212
Senior High School						104	79	183
Junior High School						93	94	187
Total, B.Y.U. Laboratory Schools						307	275	582
TOTAL STUDENTS ON B.Y.U. CAMPUS								15386*

*Complete for the school year 1959-60, including Summer School 1960.

**Total enrollment for Autumn, Winter, and Spring Quarters only was 11,744. Total Summer School enrollment was 3,503 of whom 1,578 attended Summer School only.

**BRIGHAM YOUNG UNIVERSITY 1959-60 CUMULATIVE AUTUMN, WINTER, SPRING, AND SUMMER ENROLLMENT
REGULAR DAYTIME COLLEGE STUDENTS FROM STAKES AND MISSIONS AS OF AUGUST 31, 1960**

STAKES					
Alberta	43	Cassia	23	Franklin	42
Albuquerque	27	Cedar	34	Fresno	53
Alpine	155	Cheyenne	3	Garfield	12
American Falls	21	Chicago	70	Glendale	81
American River	1	Cincinnati	5	Gooding	47
Ashley	54	Clearfield	12	Grand Coulee	54
Atlanta	16	Columbia River	49	Grand Junction	31
Auckland	8	Cottonwood	41	Granger	15
Bakersfield	35	Covina	50	Granite Park	22
Bannock	13	Dallas	19	Grant	5
Bar Lake	19	Davis	46	Grantsville	28
Bear River	15	Denver	66	Great Falls	32
Beaver	31	Deseret	18	Gridley	42
Ben Lomond	23	Detroit	73	Gunnison	40
Benson	9	Duchesne	30	Hayward	21
Big Horn	69	East Cache	42	Highland	46
Blackfoot	30	East Idaho Falls	13	Hillside	20
Blaine	17	East Jordan	6	Holladay	26
Boise	42	East Long Beach	31	Honolulu	30
Bonneville	34	East Los Angeles	38	Houston	19
Bountiful North	21	East Mesa	89	Humboldt	17
Bountiful South	22	East Mill Creek	43	Huntington Park	25
Bountiful	21	East Ogden	33	Hyrum	52
Box Elder	25	East Phoenix	34	Idaho	8
B.Y.U. Campus	168	East Pocatello	36	Idaho Falls	21
B.Y.U. 3 Campus	76	East Provo	14	Indianapolis	63
Burbank	44	East Rigby	285	Inglewood	1
Burley	39	East Sharon	28	Juab	49
Butte	7	El Paso	251	Juarez	55
Cache	29	Emery	46	Kanab	25
Calgary	11	Emigration	48	Kansas City	37
Cannon	38	Ensign	16	Kearns North	18
Canyon Rim	74	Farr West	40	Kearns	2
Carbon		Flagstaff	12	Klamath	5
		Florida	27	Kolob	39
			34		136
				Lake Mead	44
				Lake View	16
				Las Vegas	128
				Layton	18
				Lehi	89
				Lethbridge	54
				Lewiston	8
				Liberty	18
				Logan	9
				Long Beach	50
				Lorin Farr	26
				Los Angeles	99
				Lost River	17
				Lyman	47
				Malad	32
				Maricopa	47
				Mesa	50
				Midvale	42
				Millard	54
				Millcreek	13
				Minidoka	36
				Missoula	29
				Mojave	10
				Moapa	39
				Monterey Bay	17
				Montpelier	38
				Monument Park	23
				Monument Park West	11
				Morgan	11
				Moroni	22
				Mt. Graham	38
				Mt. Jordan	41
				Mount Logan	2
				Mount Ogden	22
				Mt. Rubidoux	65
				Murray	23

Central American	6	Northern Mexican	6
Central Atlantic States	58	Northern States	51
Central States	45	Northwestern States ..	67
Danish	1	Norwegian	5
East Central States	16	Samoan	4
Eastern States	91	South African	2
Finnish	9	Southern Australian ...	1
French	3	Southern Far East	13
Great Lakes	54	Southern States	43
Gulf States	19	Southwest Indian	10
Hawaiian	25	Spanish American	10
Mexican	8	Swiss Austrian	3
Netherlands	1	Tongan	3
New England	37	Uruguayan	5
New Zealand	4	West Central States	65
North British	5	Western Canadian	29
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North German	1	Non LDS Students	746
Northern California	31		
Northern Far East	17		13,326

**BRIGHAM YOUNG UNIVERSITY 1959-60 CUMULATIVE AUTUMN, WINTER,
SPRING AND SUMMER ENROLLMENT, REGULAR DAYTIME COLLEGE
STUDENTS FROM THE COUNTIES OF UTAH AS OF AUGUST 31, 1960**

Beaver	29	Rich	11
Box Elder	89	Salt Lake	1004
Carbon	100	San Juan	66
Cache	58	Sanpete	133
Daggett	7	Sevier	128
Davis	195	Summit	52
Duchesne	82	Tooele	90
Emery	49	Uintah	99
Garfield	34	Utah	2931
Grand	15	Wasatch	80
Iron	47	Washington	74
Juab	61	Wayne	21
Kane	26	Weber	223
Millard	132		
Morgan	12		5864
Piute	16		

**REGISTRATIONS THROUGH ADULT EDUCATION AND EXTENSION SERVICES
September 1, 1959 - August 31, 1960**

Academic College	Credit Courses		Non-Credit Courses		Totals	
	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.
Bio. & Agr. Sci.	489	32.55	113	4.03	602	36.58
Business	916	88.67	245	10.90	1161	99.57
Education	2372	189.01	284	9.30	2656	198.31
Family Living	614	40.61	77	4.90	691	45.51
Fine Arts	1342	81.54	1070	81.05	2412	162.59
General College	426	20.04	49	3.50	475	23.54
Hum. & Soc. Sci.	4068	300.80	1240	33.90	5308	334.70
Nursing	23	0.66			23	0.66
Phys. & Engr. Sci.	1178	104.27	312	13.63	1490	117.90
Physical Education	1398	48.27	1403	20.20	2801	68.47
Religion	2741	170.01	1772	63.86	4513	233.87
Unclassified	349	64.19	1156	57.80	1505	121.99
Totals	15,916	1,140.62	7,721	303.07	23,637	1,443.69

*F.T.E.S. means "Full-Time Equivalent Student." This is calculated by dividing the total number of hours by 45.

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Accounting	163	Chemistry	225
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Animal Husbandry	181	Engineering Sciences	147
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Aerial View of B.Y.U. Campus



